

755  
 Lys Glu Asp Pro Gly Lys Val  
 770 775

760

765

<210> 4113  
 <211> 1894  
 <212> DNA  
 <213> Homo sapiens

<400> 4113  
 cgccctgtga gggacaagcg tttgccgtag gggttgaaaa gaattgggggt gcagtagttc  
 60  
 gctccccaga agggaccccc cagaaaatcc ggcagctgat agatgagggg attgccccgg  
 120  
 taagagggag gcgtaggacgc gaaggacacg tctgccacat cccagtcagt taatggatca  
 180  
 cccaagcgg aacaaccttc attggaatct acaagcaaag aagccttctt tagcagagtg  
 240  
 gaaacatttt cttctttgaa atgggcgggt aagccctttg agctgtctcc actcgtctgt  
 300  
 gcaaaatatg gctgggtcac agtggaatgt gatatgctca agtgctctag ctgtcaagct  
 360  
 tttctctgtg ccagtttaca accagctttt gactttgaca gatataagca acgatgtgct  
 420  
 gagctgaaga aagccttggt tactgcccac gagaagttct gtttctggcc agacagccca  
 480  
 tccccagacc gatttgggat gttgccctg gatgagcctg ctattcttgt tagtgaattc  
 540  
 ctagatcggt tccaagcct ttgtcacttg gacctccagc ttccttccct aaggccggag  
 600  
 gacttgaaaa ctatgtgctt gacagaagac aagatcagtc ttctcctaca cttgcttgaa  
 660  
 gatgaacttg atcaccgaac tgatgagaga aaaactacaa tcaaattagg ctcagacatc  
 720  
 caagtccacg tcaactgctg tattctctct gtgtgtggct gggcgtgtag ttctcttttg  
 780  
 gaatccatgc agctctccct gatagcatgt tcgcaatgta tgaggaaggt ggggctcttg  
 840  
 ggcttccagc agattgaatc gtccatgact gacctggatg catcctttgg cctgaccagc  
 900  
 tccccaatcc caggccttga ggggcgacca gagcgcttac ctctgggtgcc tgaatctcct  
 960  
 cggaggatga tgaccgggag ccaggatgcc actttctccc caggctcaga gcaggctgaa  
 1020  
 aagagccctg gtccattgt ctctcgaact cggagctggg actcttccag tcctgttgag  
 1080  
 cgtcttgagc cagaggctgc tagccccacc accagaactc gccagtgac ccgaagcatg  
 1140  
 ggaacaggag acaccctgg cctggaggta ccatctagcn cctctgcgga aagccaagcg  
 1200  
 agctcgctct gctctccag cagttcggac acatcttccc gaagcttctt tgatccccacc  
 1260  
 tctcagcata gagactggtg cccttgggtg aatatcacac ttggcaaaga aagcagggag  
 1320

aatggtggaa ctgaaccaga tgccagcgcc ccagcagagc caggctggaa agcagtgctg  
 1380  
 accatcctct tggcgacaaa acagtctagc cagccagctg aaacggactc catgagtctc  
 1440  
 tctgagaaat caaggaaagt attccgaata ttccggcagt gggaatctct gtgctcatgc  
 1500  
 tgaagatact ccagcgccct cctggagata gctggaatga gagtgacttt ttgaaaaatt  
 1560  
 aaggctgagt tcctttcggg cagctgacac taagtttttc ctgttctggg ttaatcataa  
 1620  
 ggagccccct gccatagcaa aggcagtgag tgtcaactat ctgcatctgg ctgagagaga  
 1680  
 cccgtttcct ttcagggatg tggacagggt aagggcagca agcatgggtc tgttaaagga  
 1740  
 gtgtgggggt aacagactag aaggaagact aaggacctga ccacccattt cagcatcttc  
 1800  
 aatgtggagc agtgttctga ggactcttct atcctaggac tatgacagtg tgtattaata  
 1860  
 aaatatttgc taagaaaaaa aaaaaaaaaa aaaa  
 1894

<210> 4114  
 <211> 389  
 <212> PRT  
 <213> Homo sapiens

<400> 4114  
 Met Leu Lys Cys Ser Ser Cys Gln Ala Phe Leu Cys Ala Ser Leu Gln  
 1 5 10 15  
 Pro Ala Phe Asp Phe Asp Arg Tyr Lys Gln Arg Cys Ala Glu Leu Lys  
 20 25 30  
 Lys Ala Leu Cys Thr Ala His Glu Lys Phe Cys Phe Trp Pro Asp Ser  
 35 40 45  
 Pro Ser Pro Asp Arg Phe Gly Met Leu Pro Leu Asp Glu Pro Ala Ile  
 50 55 60  
 Leu Val Ser Glu Phe Leu Asp Arg Phe Gln Ser Leu Cys His Leu Asp  
 65 70 75 80  
 Leu Gln Leu Pro Ser Leu Arg Pro Glu Asp Leu Lys Thr Met Cys Leu  
 85 90 95  
 Thr Glu Asp Lys Ile Ser Leu Leu Leu His Leu Leu Glu Asp Glu Leu  
 100 105 110  
 Asp His Arg Thr Asp Glu Arg Lys Thr Thr Ile Lys Leu Gly Ser Asp  
 115 120 125  
 Ile Gln Val His Val Thr Ala Cys Ile Leu Ser Val Cys Gly Trp Ala  
 130 135 140  
 Cys Ser Ser Ser Leu Glu Ser Met Gln Leu Ser Leu Ile Ala Cys Ser  
 145 150 155 160  
 Gln Cys Met Arg Lys Val Gly Leu Trp Gly Phe Gln Gln Ile Glu Ser  
 165 170 175  
 Ser Met Thr Asp Leu Asp Ala Ser Phe Gly Leu Thr Ser Ser Pro Ile  
 180 185 190  
 Pro Gly Leu Glu Gly Arg Pro Glu Arg Leu Pro Leu Val Pro Glu Ser  
 195 200 205  
 Pro Arg Arg Met Met Thr Arg Ser Gln Asp Ala Thr Phe Ser Pro Gly



210	215	220
Ser Glu Gln Ala Glu Lys Ser Pro Gly Pro Ile Val Ser Arg Thr Arg		
225	230	235
Ser Trp Asp Ser Ser Ser Pro Val Asp Arg Pro Glu Pro Glu Ala Ala		240
	245	250
Ser Pro Thr Thr Arg Thr Arg Pro Val Thr Arg Ser Met Gly Thr Gly		255
	260	265
Asp Thr Pro Gly Leu Glu Val Pro Ser Ser Xaa Ser Ala Glu Ser Gln		270
	275	280
Ala Ser Ser Leu Cys Ser Ser Ser Ser Ser Asp Thr Ser Ser Arg Ser		285
	290	295
Phe Phe Asp Pro Thr Ser Gln His Arg Asp Trp Cys Pro Trp Val Asn		300
305	310	315
Ile Thr Leu Gly Lys Glu Ser Arg Glu Asn Gly Gly Thr Glu Pro Asp		320
	325	330
Ala Ser Ala Pro Ala Glu Pro Gly Trp Lys Ala Val Leu Thr Ile Leu		335
	340	345
Leu Ala His Lys Gln Ser Ser Gln Pro Ala Glu Thr Asp Ser Met Ser		350
	355	360
Leu Ser Glu Lys Ser Arg Lys Val Phe Arg Ile Phe Arg Gln Trp Glu		365
	370	375
Ser Leu Cys Ser Cys		380
385		

&lt;210&gt; 4115

&lt;211&gt; 1056

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4115

```

ccaaatccag ttttcatatt taaagcgaat gagccccctc ctctcagtgg gaaagatgag
60
ctgaagcttt actccctcga tagtggttggg aaaagaaatc agacaaaaat ctaaggaagg
120
accaaattatt gtacagagtg tgccagtagg cttttgcaac tggactgaaa atacctgcct
180
tttctctcca caggggaaag tggaagttga agctgggaaa gaaggtatga agtttgaagc
240
gagcgccttc tcatactatg gcgtgatggc cctgacagcc tctccagggtg aaaataagtc
300
ccctectcgc ccatgtggct tgaatcactc agactctctc agtcgaagcg accggattga
360
cgccgtcaca ccaacactgg ggagcagcaa taaccagctc aattcttcgc tcctccaagt
420
ctacatcccc gattactcgg tgcgagccct ttcggatctg cagtttggtta agatctcaag
480
acagcaatac caaaatgcct tgatggcatc ccggatggac aaaaccccc agtcttcaga
540
cagtgaaaac actaaaatcg aattgactct tacggagctg catgacgggt tgccagacga
600
gacagccaac ctgctcaacg aacagaactg tgtgacgcac agtaaggcca accacagcct
660
gcacaacgaa ggcgccatct aggccgcgct ggctgcaccc gccagggccc gcacccgccc
720

```

agtcccgagg gcccgccct gtctgcccat gacttcactg gtgtgagctt gtccgccatg  
 780  
 ctgtaccctg caacatcctg agaccaaaga ccttgtgccc ttcccaggag ccgcggagga  
 840  
 ggacagttag ggaggaatgg aaacgagaga tgtgaagttg gcagccgggg catggcgctc  
 900  
 aagattttgg agatgaactg attccgccca aatagaatca tgtttatttt ttcagctctc  
 960  
 ccttttatca ttattcacac tcctctgccc tcgatttgca tgaagttgaa aattgttgcg  
 1020  
 atttattttt tcaagagatc atgtttttaa agtggtc  
 1056

<210> 4116  
 <211> 151  
 <212> PRT  
 <213> Homo sapiens

<400> 4116  
 Met Lys Phe Glu Ala Ser Ala Phe Ser Tyr Tyr Gly Val Met Ala Leu  
 1 5 10 15  
 Thr Ala Ser Pro Gly Glu Asn Lys Ser Pro Pro Arg Pro Cys Gly Leu  
 20 25 30  
 Asn His Ser Asp Ser Leu Ser Arg Ser Asp Arg Ile Asp Ala Val Thr  
 35 40 45  
 Pro Thr Leu Gly Ser Ser Asn Asn Gln Leu Asn Ser Ser Leu Leu Gln  
 50 55 60  
 Val Tyr Ile Pro Asp Tyr Ser Val Arg Ala Leu Ser Asp Leu Gln Phe  
 65 70 75 80  
 Val Lys Ile Ser Arg Gln Gln Tyr Gln Asn Ala Leu Met Ala Ser Arg  
 85 90 95  
 Met Asp Lys Thr Pro Gln Ser Ser Asp Ser Glu Asn Thr Lys Ile Glu  
 100 105 110  
 Leu Thr Leu Thr Glu Leu His Asp Gly Leu Pro Asp Glu Thr Ala Asn  
 115 120 125  
 Leu Leu Asn Glu Gln Asn Cys Val Thr His Ser Lys Ala Asn His Ser  
 130 135 140  
 Leu His Asn Glu Gly Ala Ile  
 145 150

<210> 4117  
 <211> 973  
 <212> DNA  
 <213> Homo sapiens

<400> 4117  
 nnagaccgag ttgtcgtctc tccgggggag tgagggctga aggggtggct cctgcagtcc  
 60  
 ggctgccaga ggctccccag gcaccgggtc ctgcaggcat ttggcactag ggaaggttcc  
 120  
 tgggtctcct gggcaccact cagagctctg tgctgtggg tccaacaagt ccagagctgt  
 180  
 tggcactggt gcttcccggc tctggggcag tccgggggct gcaagtggaa acccaggggc  
 240

cctgcctggc tggggactaa gcagtgtcca gagtgggggc agggagaaca gagggcttga  
 300  
 ggagggagggc agaggcctgt cagtgggtac cctcctccct cccatgcaca tctaggtccc  
 360  
 caggcacagc ctgctgtaca agcacacgac tggcctgggt gtgggcgttg gcctcagcca  
 420  
 cctggaggca tcttggagtg ggagaggtgt gttggttgcc caaggccagc cagacctgcg  
 480  
 tcaccgtcac cgggagaagc taccctgccc ccttcttcag ggatctccgc agtgaagcct  
 540  
 cctctaagga gtcctaggac tctcccttta gagttgggga caggggggtg tgtttgtgct  
 600  
 ggccctgggtc caaatactcc aggggtgctag ctccatcccc ctgctgtcct ctgtccccag  
 660  
 gggctgggaa gacaccaacg gctgtgaaca aactcgtga tttcttcacc aagacggtga  
 720  
 ggcgagggca ctggctgcaa aagtccaccc cctctagacc tctgcaacca cagaatcccc  
 780  
 agcccaaagg cctttgctgg tttgagttga attcagtgtg gactgaagga aaaacatata  
 840  
 tattcacacc tcagagtgc catccgagct cctggtgact ggaaaaaaga aatgggtcac  
 900  
 cctttggcct gcgaggactg ggcgggaggc cccagcccag gcgacacagg agcttccacc  
 960  
 tcccttcacg cgt  
 973

<210> 4118  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

<400> 4118  
 Gly Gly Arg Gln Arg Pro Val Ser Gly Tyr Pro Pro Pro Ser His Ala  
 1 5 10 15  
 His Leu Gly Pro Gln Ala Gln Pro Ala Val Gln Ala His Asp Trp Pro  
 20 25 30  
 Gly Cys Gly Arg Trp Pro Gln Pro Gly Gly Ile Leu Glu Trp Glu  
 35 40 45  
 Arg Cys Val Gly Cys Pro Arg Pro Ala Arg Pro Ala Ser Pro Ser Pro  
 50 55 60  
 Gly Glu Ala Thr Pro Pro Ser Ser Gly Ile Ser Ala Val Lys Pro  
 65 70 75 80  
 Pro Leu Arg Ser Pro Arg Thr Leu Pro Leu Glu Leu Gly Thr Gly Gly  
 85 90 95  
 Cys Val Cys Ala Gly Leu Gly Pro Asn Thr Pro Gly Cys Gln Leu His  
 100 105 110  
 Pro Pro Ala Val Leu Cys Pro Gln Gly Leu Gly Arg His Gln Arg Leu  
 115 120 125

<210> 4119  
 <211> 649  
 <212> DNA  
 <213> Homo sapiens

<400> 4119  
 nnagatctcc aacctctgac aagttgtcat ggcaaagtcc taagaaggat catggcaatt  
 60  
 aggggtggctc tccatgtccc atgacgaaac ccaaacactg aatgttgtgc aatcataaaa  
 120  
 accaatttttc tgaactacaa aaatgatcga accataaaaa tcaggaacac ctctgggtcc  
 180  
 agtcagacta aagatcagag gatccctggg cgtccagcct toccaacatcc ctgaccttct  
 240  
 gaagtctaag atctctagct gggatgtgct tcttctcctt tcttcttact gtaacacctc  
 300  
 ttcctacaga gctctggcct ctctacatgg attgggaacc agatgttgtc cctgagcagc  
 360  
 ctcccaccgt gggctgtcac cctgctggca tgcacccctg tgtccattgt cactgagttt  
 420  
 gtgagcaacc cagcaaccat caccatcttc ctgcccatcc tgtgcagcct ggtgagtaat  
 480  
 gcggagctcc cagacatcca gacaggctgt cccagggggc tggagtggca ggctggctc  
 540  
 agggcagctt ccgtagctgt aggctctcct ctgggttactg cccacagcct tcactaattg  
 600  
 gtgttcaatt cctactttga aaaatgaagt ttttcaaata gcaactagt  
 649

<210> 4120  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 4120  
 His Leu Phe Leu Gln Ser Ser Gly Leu Ser Thr Trp Ile Gly Asn Gln  
 1 5 10 15  
 Met Leu Ser Leu Ser Ser Leu Pro Pro Trp Ala Val Thr Leu Leu Ala  
 20 25 30  
 Cys Ile Leu Val Ser Ile Val Thr Glu Phe Val Ser Asn Pro Ala Thr  
 35 40 45  
 Ile Thr Ile Phe Leu Pro Ile Leu Cys Ser Leu Val Ser Asn Ala Glu  
 50 55 60  
 Leu Pro Asp Ile Gln Thr Gly Cys Pro Arg Gly Leu Glu Trp Gln Ala  
 65 70 75 80  
 Trp Leu Arg Ala Ala Ser Val Ala Val Gly Ser Pro Leu Val Thr Ala  
 85 90 95  
 His Ser Leu His  
 100

<210> 4121  
 <211> 2490  
 <212> DNA  
 <213> Homo sapiens

<400> 4121  
 cgggccaggg gctgcgcggg cccttgcggc cgggcagtct ttctggcctt cgggctaggg  
 60

ctgggcctca tcgaggaaaa acaggcggag agccggcggg cggctctggc ctgtcaggag  
120  
atccaggcaa tttttaccca gaaaagcaag ccggggcctg acccggtgga cacgagacgc  
180  
ttgcagggct ttcggctgga ggagtatctg atagggcagt ccattggtaa gggctgcagt  
240  
gctgctgtgt atgaagccac catgcctaca ttgccccaga acctggaggt gacaaagagc  
300  
accgggttgc ttccaggag agggccaggt accagtgcac caggagaagg gcaggagcga  
360  
gctccggggg cccctgcctt ccccttgcc atcaagatga tgtggaacat ctccggcagg  
420  
tctccagcg aagccatctt gaacacaatg agccaggagc tgggtcccagc gagccgagt  
480  
gccttggtg gggagtatgg agcagtcact tacagaaaat ccaagagagg tcccaagcaa  
540  
ctagccctc accccaacat catccgggtt ctccgcgct tcacctcttc cgtgccgctg  
600  
ctgccagggg ccctggctga ctacctgat gtgctgccct cagcctcca ccctgaaggc  
660  
ctgggccatg gccggacgct gttcctcgtt atgaagaact atccctgtac cctgcgccag  
720  
tacctttgtg tgaacacacc cagccccgc ctccgcgcca tgatgctgct gcagctgctg  
780  
gaaggcgtg accatctggt tcaacagggc atccgcgaca gagacctgaa atccgacaac  
840  
atccttgtg agctggacc agacggctgc ccctggctgg tgatcgcaga ttttggctgc  
900  
tgctggctg atgagagcat cggcctgcag ttgcccttca gcagctggta cgtggatcgg  
960  
ggcggaacg gctgtctgat ggccccagag gtgtccacgg cccgtcctgg ccccagggca  
1020  
gtgattgact acagcaaggc tgatgcctgg gcagtgggag ccatcgcta tgaaatcttc  
1080  
gggcttgtca atcccttcta cggccagggc aaggcccacc ttgaaagccg cagctaccaa  
1140  
gaggctcagc tacctgcact gcccaggtca gtgcctccag acgtgagaca gttggtgagg  
1200  
gcactgctcc agcgagaggc cagcaagaga ccatctgccc gagtagccgc aaatgtgctt  
1260  
catctaagcc tctggggtga acatattcta gccctgaaga atctgaagtt agacaagatg  
1320  
gttggtggc tctccaaca atcgccgcc actttgttgg ccaacaggct cacagagaag  
1380  
tgttggtgg aaacaaaaat gaagatgctc tttctggcta acctggagtg tgaaacgctc  
1440  
tgccaggcag cctcctcct ctgctcatgg agggcagccc tgtgatgtcc ctgcatggag  
1500  
ctggtgaatt actaaaagaa cttggcatcc tctgtgtcgt gatggctctgt gaatggtgag  
1560  
ggtgggagtc aggagacaag acagcgcaga gagggtgggt tagccgaaa aggcctcggg  
1620  
cttggcaaat ggaagaactt gagtgagagt tcagtctgca gtctgtgct cacagacatc  
1680

tgaaaagtga atggccaagc tggcttagta gatgaggctg gactgaggag gggtaggcct  
 1740  
 gcatccacag agaggatcca ggccaaggca ctggctgtca gtggcagagt ttggctgtga  
 1800  
 cctttgcccc taacacgagg aactcgtttg aagggggcag cgtagcatgt ctgatttgcc  
 1860  
 acctggatga aggcagacat caacatgggt cagcacgttc agttacggga gtgggaaatt  
 1920  
 acatgaggcc tgggcctctg cgttcccaag ctgtgcgttc tggaccagct actgaattat  
 1980  
 taatctcact tagcgaaagt gacggatgag cagtaagtaa gtaagtgtgg ggatttaaac  
 2040  
 ttgaggggtg cctcctgac tagcctctct tacaggaatt gtgaaatatt aaatgcaaatt  
 2100  
 ttacaactgc agatgacgta tgtgccttga actgaatatt tggctttaag aatgattctt  
 2160  
 cttatactct gaaggtgaga atattttgtg ggcaggatc aacattgggg aagagagaga  
 2220  
 tttcatgtct aactaactaa ctttatacat gatttttagg aagctattgc ctaaatacgc  
 2280  
 gtcaacatgc agtaaagggt gtcttcaact gagctgttct agttttctct taccagcac  
 2340  
 tgtcatctag attttccatt tcagtgttc ccacccctcg gtctactagc aacaacaact  
 2400  
 ttcttgatc ctttgaggag acgttaggga gaaccatcat ttcacagtta aaagaaagac  
 2460  
 agtccagtcc taggcaaaat ttcatgaagc  
 2490

<210> 4122

<211> 494

<212> PRT

<213> Homo sapiens

<400> 4122

Arg	Ala	Arg	Gly	Cys	Ala	Gly	Pro	Cys	Gly	Arg	Ala	Val	Phe	Leu	Ala
1			5					10						15	
Phe	Gly	Leu	Gly	Leu	Gly	Leu	Ile	Glu	Glu	Lys	Gln	Ala	Glu	Ser	Arg
		20					25					30			
Arg	Ala	Val	Ser	Ala	Cys	Gln	Glu	Ile	Gln	Ala	Ile	Phe	Thr	Gln	Lys
		35				40					45				
Ser	Lys	Pro	Gly	Pro	Asp	Pro	Leu	Asp	Thr	Arg	Arg	Leu	Gln	Gly	Phe
	50				55				60						
Arg	Leu	Glu	Glu	Tyr	Leu	Ile	Gly	Gln	Ser	Ile	Gly	Lys	Gly	Cys	Ser
65				70				75						80	
Ala	Ala	Val	Tyr	Glu	Ala	Thr	Met	Pro	Thr	Leu	Pro	Gln	Asn	Leu	Glu
			85				90						95		
Val	Thr	Lys	Ser	Thr	Gly	Leu	Leu	Pro	Gly	Arg	Gly	Pro	Gly	Thr	Ser
		100					105					110			
Ala	Pro	Gly	Glu	Gly	Gln	Glu	Arg	Ala	Pro	Gly	Ala	Pro	Ala	Phe	Pro
		115				120						125			
Leu	Ala	Ile	Lys	Met	Met	Trp	Asn	Ile	Ser	Ala	Gly	Ser	Ser	Ser	Glu
	130					135					140				
Ala	Ile	Leu	Asn	Thr	Met	Ser	Gln	Glu	Leu	Val	Pro	Ala	Ser	Arg	Val

```

145          150          155          160
Ala Leu Ala Gly Glu Tyr Gly Ala Val Thr Tyr Arg Lys Ser Lys Arg
          165          170          175
Gly Pro Lys Gln Leu Ala Pro His Pro Asn Ile Ile Arg Val Leu Arg
          180          185          190
Ala Phe Thr Ser Ser Val Pro Leu Leu Pro Gly Ala Leu Val Asp Tyr
          195          200          205
Pro Asp Val Leu Pro Ser Arg Leu His Pro Glu Gly Leu Gly His Gly
          210          215          220
Arg Thr Leu Phe Leu Val Met Lys Asn Tyr Pro Cys Thr Leu Arg Gln
          225          230          235          240
Tyr Leu Cys Val Asn Thr Pro Ser Pro Arg Leu Ala Ala Met Met Leu
          245          250          255
Leu Gln Leu Leu Glu Gly Val Asp His Leu Val Gln Gln Gly Ile Ala
          260          265          270
His Arg Asp Leu Lys Ser Asp Asn Ile Leu Val Glu Leu Asp Pro Asp
          275          280          285
Gly Cys Pro Trp Leu Val Ile Ala Asp Phe Gly Cys Cys Leu Ala Asp
          290          295          300
Glu Ser Ile Gly Leu Gln Leu Pro Phe Ser Ser Trp Tyr Val Asp Arg
          305          310          315          320
Gly Gly Asn Gly Cys Leu Met Ala Pro Glu Val Ser Thr Ala Arg Pro
          325          330          335
Gly Pro Arg Ala Val Ile Asp Tyr Ser Lys Ala Asp Ala Trp Ala Val
          340          345          350
Gly Ala Ile Ala Tyr Glu Ile Phe Gly Leu Val Asn Pro Phe Tyr Gly
          355          360          365
Gln Gly Lys Ala His Leu Glu Ser Arg Ser Tyr Gln Glu Ala Gln Leu
          370          375          380
Pro Ala Leu Pro Glu Ser Val Pro Pro Asp Val Arg Gln Leu Val Arg
          385          390          395          400
Ala Leu Leu Gln Arg Glu Ala Ser Lys Arg Pro Ser Ala Arg Val Ala
          405          410          415
Ala Asn Val Leu His Leu Ser Leu Trp Gly Glu His Ile Leu Ala Leu
          420          425          430
Lys Asn Leu Lys Leu Asp Lys Met Val Gly Trp Leu Leu Gln Gln Ser
          435          440          445
Ala Ala Thr Leu Leu Ala Asn Arg Leu Thr Glu Lys Cys Cys Val Glu
          450          455          460
Thr Lys Met Lys Met Leu Phe Leu Ala Asn Leu Glu Cys Glu Thr Leu
          465          470          475          480
Cys Gln Ala Ala Leu Leu Cys Ser Trp Arg Ala Ala Leu
          485          490

```

<210> 4123  
 <211> 1095  
 <212> DNA  
 <213> Homo sapiens

<400> 4123  
 ctaagcactc caccttgccg aaatgcgcgg cccagtgac gggcgtccag ccatagaagg  
 60  
 agtcctcaga ggccaggtgg gcgtgggggtg tctgctgcag cagcgagcag agcgtggcca  
 120

ggccccgctc gcggcaggcg cgggtgcagcg ggaaacggag cgagagcagc tcctcgctgg  
 180  
 agaagcccg cttctacgccc gcgctccgct cggcagcctg tgggacgccc ccgcagcgct  
 240  
 aatctcgctt ctttgtgctg cggcgggcggc ttctcgagtc cccccgacg cgtcctctag  
 300  
 gccagcgagc cccgcgctct ccggtgacgg accatgtcgg cggcgggagc gggcgcgggc  
 360  
 gtagaggcgg gcttctccag cgaggagctg ctctcgctcc gtttcccgct gcaccgcgcc  
 420  
 tgccgcgacg gggacctggc cagcctctgc tcgctgctgc agcagacacc ccacgcccac  
 480  
 ctggcctctg aggactcctt ctatggctgg acgcccgtgc actgggcccgc gcatttcggc  
 540  
 aagttggagt gcttagtgca gttggtgaga gcgggagcca cactcaacgt ctccaccaca  
 600  
 cggtagcgcg agacgccagc ccacattgca gcctttgggg gacatcctca gtgcctggtc  
 660  
 tggctgattc aagcaggagc caacattaac aaaccggatt gtgagggtga aactcccatt  
 720  
 cacaaggcag ctcgctctgg gagcctagaa tgcacagtg cccttggtggc gaatggggct  
 780  
 cagtcgatt cacagcacta acaaaatgga tgcggttttc acccttaaat gttgagtgtg  
 840  
 agctatagag ctataataac caaaataacc aatatcagct tttttttttt accttgttat  
 900  
 gaataattca tgaaaattaa ttataaacca cattattcta atcagaaatg tgaacattta  
 960  
 gacttcggag gaaattaaac ccacaaaact agtttaaccc tttggtttcc atttcattgc  
 1020  
 tttgactctg tattatattg aaaatagatc ctagacagca aaaccataca ggctaattgca  
 1080  
 cgacgtgtgt ggtaa  
 1095

&lt;210&gt; 4124

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4124

Met	Ser	Ala	Ala	Gly	Ala	Gly	Ala	Gly	Val	Glu	Ala	Gly	Phe	Ser	Ser
1				5					10					15	
Glu	Glu	Leu	Leu	Ser	Leu	Arg	Phe	Pro	Leu	His	Arg	Ala	Cys	Arg	Asp
			20					25					30		
Gly	Asp	Leu	Ala	Thr	Leu	Cys	Ser	Leu	Leu	Gln	Gln	Thr	Pro	His	Ala
		35				40					45				
His	Leu	Ala	Ser	Glu	Asp	Ser	Phe	Tyr	Gly	Trp	Thr	Pro	Val	His	Trp
	50				55					60					
Ala	Ala	His	Phe	Gly	Lys	Leu	Glu	Cys	Leu	Val	Gln	Leu	Val	Arg	Ala
65				70					75					80	
Gly	Ala	Thr	Leu	Asn	Val	Ser	Thr	Thr	Arg	Tyr	Ala	Gln	Thr	Pro	Ala
			85					90						95	
His	Ile	Ala	Ala	Phe	Gly	Gly	His	Pro	Gln	Cys	Leu	Val	Trp	Leu	Ile



```

<400> 4125
gcggcgccgcg gggcagcgcg gcgcgtgtct gtgcgctgcg gtcgctcggg accgggaccg
60
gggcgagggcg ccgcgggggct gagcccagca gacattgcgt tggcctccga gcagggcgca
120
tcatgcagcg ttcgcgcacc ggagagaaaa ctgagaatga aattgctttg gcaagctaaa
180
atgagctcga ttcaggactg ggggtgaagag gtagaggaag gagctgttta ccatgtcacc
240
ctcaaaagag tccagattca acaggctgcc aataaaggag caagatggct aggggttgaa
300
ggggaccagc tgcctccagg acacacagtc agtcaatatg aaacctgtaa gatcaggacc
360
ataaaagctg gcaccttgga gaagcttgtg gagaacctgc tgacagcttt tggggacaat
420
gactttacct atatcagcat ctttctttca acgtacagag gctttgcctc cactaaagaa
480
gtgctggaac tactgctgga caggatatgga aacctgacaa gcccaaactg tgaagaagat
540
ggaagccaaa gttcatcaga gtccaaaatg gtgatcagga atgcaatcgc ttccatacta
600
agggcctggc ttgaccagtg tgcagaagac ttccgagagc ccctcactt cccttgctta
660
cagaaactgc tggattatct cacacggatg atgccgggct ctgaccaga aagaagagca
720
caaaatcttc ttgagcagtt tcagaagcaa gaagtggaaa ctgacaatgg gcttcccaac
780
acgatctcct tcagcctgga agaggaagag gaactggagg gtggagagtc agcagaattc
840
acgtgcttct cagaagatct agtggcagag cagctgacct acatggatgc acaactcttc
900
aagaaagtag tgcctcacca ctgcctgggc tgcatttggt ctgaaggga taagaaggaa
960
aacaacatt tggctcctac gatccgtgcc accatctctc agtttaatac cctcaccaaa
1020
tgtgttgtca gcaccatcct ggggggcaaa gaactcaaaa ctcagcagag agccaaaatc
1080
attgagaagt ggatcaacat cgctcatgaa tgtagactcc tgaagaattt ttcctccttg
1140
agggccatcg ttttcggcact gcagtctaata tccatctatc ggttaaaaaa gacttgggct
1200

```

gccgtcccaa gggaccgaat gctgatgttt gaagaacttt cagatatctt ctcagaccat  
1260  
aataaccatt tgaccagccg agaactactg atgaaggaag gaacctcaaa atttgcaaac  
1320  
ctggacagca gtgtgaaaga aaaccagaag cgtacccaga ggcggtgca gctccagaag  
1380  
gacatgggtg tgatgcaggg aactgtgccc tacctgggca ccttcctgac tgacctgacc  
1440  
atgcttgaca ctgcccttca ggactacatc gaggggtggac tgataaactt tgagaaaagg  
1500  
agaaggggaat ttgaagtgat tgcccagata aagctcttac agtctgctg caacagctat  
1560  
tgcatgaccc cagaccaaaa gttcatccag tggttccaga ggcagcagct cctgacagag  
1620  
gaggagagct atgccctgtc atgtgagatt gaagcagctg ctggcgccag caccacctcg  
1680  
cccaagcctc ggaagagcat ggtgaagaga ctcagcctac tgtttctagg gtctgacatg  
1740  
atcaccagtc cactccccc caaagagcag cccaagtcca ctgccagcgg gagctctggt  
1800  
gaaagcatgg actctgtcag cgtgtcatcc tgcgagtoga accactcaga ggctgaggag  
1860  
ggctccatta ctcccatgga caccctgat gagcctcaaa aaaagctctc tgagtctctc  
1920  
tcatcctgtt cttctatcca ttccatggac acaaattcct cagggatgtc ttccttaatc  
1980  
aaccctctct cctccctctc gtcttgcaac aacaacccca aaatccacaa gcgctctgtc  
2040  
tcggtgacgt ccattacctc gactgtgctg cctcctgttt acaaccaaca gaatgaagac  
2100  
acctgcataa tccgcatcag tgtggaagac aataacggca acatgtacaa gagcatcatg  
2160  
ttgacgagcc aggataaaac ccccgctgtg atccagagag ccatgctgaa gcacaatctg  
2220  
gactcagacc ccgcccagga gtacgagctg gtgcaggtca tctcggagga caaagaactt  
2280  
gtgattccag actcagcaaa tgtcttttat gccatgaaca gccaaagtga ctttgacttc  
2340  
atthttgcgca aaaagaactc catggaagaa caagtgaac tgcgtagccg gaccagcttg  
2400  
acgttgccca ggacagctaa acggggctgc tggagtaaca gacacagcaa aatcaccctc  
2460  
tgaagggagg gaccagtggc cccttgtttg ccaaaggcag agtggggctg agaaacaggc  
2520  
tgcggtgatt gcaattacca tccggtgttc gaggatcatt ggtgaagtca gcagatatth  
2580  
attgagttcc tgtggtgtgc aaagcattat gataggcacc gtgggggaaac tggaaatgaa  
2640  
tttgacatga aaaggatgaa cgattcactg attctctttg actcatttga gactaaaatg  
2700  
cagaattacc aacattttaa acatatatat gcacatgtat ttgggtatgca tgtgtatcta  
2760  
tataaaaaata tataagaggg actttatggg atagtatgga ctatggaaaa acaaatttgc  
2820

acaatggcct ggggaagttga ggtcactttt tacagggaaa tagaagaaac tgagaaccta  
2880  
gtctcgtata ttctgagtaa atggaatcag tcctgggaat agagagtgtc ctttgtgcca  
2940  
gtattacaag aagcccaaac tttattttta taaagggaga ggatgacttt ctcaatcaag  
3000  
tgccaccaga taaaaacaac tgcagaggct ggaactgcca caggctgtat gaaaggccac  
3060  
tttggaagg gtttggatga gctggtggcc ttcaacctct gcctgcatct gccactttct  
3120  
gctaccctag ggaggccagg aggagcttcg gaggaccatc gcccactgg tctagccatc  
3180  
atgacacctc tggaggtgtc aagctcctga aacaagctca tttcagtttc tggcaacccc  
3240  
gtgtatttcc gttttccccc taaagaacat atcataatca ttgcacaaat aacctgttc  
3300  
tttggtaatg aagccagaaa agaaagcgca aaagaatggg gactcatttg gactcttate  
3360  
tgtcttggaa tgtcactgct tcattgcctt ctctgattgc cttttgcatg taaaactatg  
3420  
tgtctggagt cttttgccat ctggatctta gtacctcttt attatgtgca atttatcct  
3480  
cagggtgtgga aatttctact gcaattgact acgtttgatt attttgagct tgtgaaagat  
3540  
ttctgaacag tgattgtccc gttaatagcc cctcagaaga tgttccctgc tgataacagc  
3600  
atcctatttt acttactttt atagcattac tgtgcctagt cgtggggaaa gagatggggc  
3660  
tgtatagatt atctgaatca tttgtctaag aggtacattc ttccagatgg aatcaataac  
3720  
tttttttttt ccagggtccc gtgcttgcta tcacagtatc attgttaagt gacacttttg  
3780  
tctctcataa caccatcaca ctcttccttc caagtctgag ctgtgctggg gtttgaacta  
3840  
aaagccatat gtggaatatt gacatgtgta agaagcactt tcagaatgtt gtccttttta  
3900  
agaaatgatt ctcaaaatac cagtttttat tccaaaaatt tagagaacaa acccggaata  
3960  
tgaagtgcag attgtaacat ggagctatct ttttttccta atcccataat acagctccta  
4020  
aaagttgtgt gggatttgcg ttgcataaat agccatgtga attccacaag aagcaccagg  
4080  
gaaagtttag agatttgcg caatggaccg aagaacgggc caggaagtcc tccaatttcc  
4140  
tttggtcttt ccaggagatt ggactacaca ttgtaaagac tgactggggt tcaactagtc  
4200  
aaaaagcact ttcttctgtt ttcaatccct gttcgatttg tgcttctgtg cttgtaggag  
4260  
agatggccag ggtggcagcc ctcatgcagg ttgaagtata tgtagcctca gcctgatatt  
4320  
cttggtgcga aggtaaaaaa aaaaaataa ataaaaccat tggcctggtt gagggcgtga  
4380  
ccaccaagac atatatgttg tgcccgtgtt catcctgtgt atttatactg tatatgtaga  
4440

gtctagattt atatactgca atgtaaaata tatatatatt tacctttttt aaagacaatg  
 4500  
 gaaattccaa gtagctaaaa cttagcttca tttatttaat gccactttaaa atgtcttaaa  
 4560  
 tttgtttcct ggtggacagc cgggtaatgc ttttagctgc tcgcatgctt gtctttctgc  
 4620  
 atctccatca tctgtttacc ttttggttaa actaataaac tagtttgggga cttggctggc  
 4680  
 atgtgctgcc agaccctaaag ggaaaaaaaa a  
 4711

<210> 4126

<211> 820

<212> PRT

<213> Homo sapiens

<400> 4126

Ala	Ala	Ala	Gly	Ala	Ala	Arg	Arg	Val	Ser	Val	Arg	Cys	Gly	Arg	Ser
1				5				10						15	
Gly	Pro	Gly	Pro	Gly	Arg	Gly	Ala	Ala	Gly	Leu	Ser	Pro	Ala	Asp	Ile
			20					25					30		
Ala	Leu	Ala	Ser	Glu	Gln	Gly	Ala	Ser	Cys	Ser	Val	Arg	Ala	Pro	Glu
			35				40					45			
Arg	Lys	Leu	Arg	Met	Lys	Leu	Leu	Trp	Gln	Ala	Lys	Met	Ser	Ser	Ile
	50					55					60				
Gln	Asp	Trp	Gly	Glu	Glu	Val	Glu	Glu	Gly	Ala	Val	Tyr	His	Val	Thr
65					70					75					80
Leu	Lys	Arg	Val	Gln	Ile	Gln	Gln	Ala	Ala	Asn	Lys	Gly	Ala	Arg	Trp
				85				90						95	
Leu	Gly	Val	Glu	Gly	Asp	Gln	Leu	Pro	Pro	Gly	His	Thr	Val	Ser	Gln
			100					105					110		
Tyr	Glu	Thr	Cys	Lys	Ile	Arg	Thr	Ile	Lys	Ala	Gly	Thr	Leu	Glu	Lys
	115						120					125			
Leu	Val	Glu	Asn	Leu	Leu	Thr	Ala	Phe	Gly	Asp	Asn	Asp	Phe	Thr	Tyr
	130					135				140					
Ile	Ser	Ile	Phe	Leu	Ser	Thr	Tyr	Arg	Gly	Phe	Ala	Ser	Thr	Lys	Glu
145					150					155					160
Val	Leu	Glu	Leu	Leu	Asp	Arg	Tyr	Gly	Asn	Leu	Thr	Ser	Pro	Asn	
			165					170						175	
Cys	Glu	Glu	Asp	Gly	Ser	Gln	Ser	Ser	Ser	Glu	Ser	Lys	Met	Val	Ile
			180					185					190		
Arg	Asn	Ala	Ile	Ala	Ser	Ile	Leu	Arg	Ala	Trp	Leu	Asp	Gln	Cys	Ala
	195						200					205			
Glu	Asp	Phe	Arg	Glu	Pro	Pro	His	Phe	Pro	Cys	Leu	Gln	Lys	Leu	Leu
	210					215					220				
Asp	Tyr	Leu	Thr	Arg	Met	Met	Pro	Gly	Ser	Asp	Pro	Glu	Arg	Arg	Ala
225					230					235					240
Gln	Asn	Leu	Leu	Glu	Gln	Phe	Gln	Lys	Gln	Glu	Val	Glu	Thr	Asp	Asn
			245					250						255	
Gly	Leu	Pro	Asn	Thr	Ile	Ser	Phe	Ser	Leu	Glu	Glu	Glu	Glu	Glu	Leu
			260					265						270	
Glu	Gly	Gly	Glu	Ser	Ala	Glu	Phe	Thr	Cys	Phe	Ser	Glu	Asp	Leu	Val
	275						280						285		
Ala	Glu	Gln	Leu	Thr	Tyr	Met	Asp	Ala	Gln	Leu	Phe	Lys	Lys	Val	Val

290		295		300
Pro His His Cys Leu Gly Cys Ile Trp Ser Arg Arg Asp Lys Lys Glu				
305		310		315
Asn Lys His Leu Ala Pro Thr Ile Arg Ala Thr Ile Ser Gln Phe Asn				
	325		330	335
Thr Leu Thr Lys Cys Val Val Ser Thr Ile Leu Gly Gly Lys Glu Leu				
	340		345	350
Lys Thr Gln Gln Arg Ala Lys Ile Ile Glu Lys Trp Ile Asn Ile Ala				
	355		360	365
His Glu Cys Arg Leu Leu Lys Asn Phe Ser Ser Leu Arg Ala Ile Val				
	370		375	380
Ser Ala Leu Gln Ser Asn Ser Ile Tyr Arg Leu Lys Lys Thr Trp Ala				
385		390		395
Ala Val Pro Arg Asp Arg Met Leu Met Phe Glu Glu Leu Ser Asp Ile				
	405		410	415
Phe Ser Asp His Asn Asn His Leu Thr Ser Arg Glu Leu Leu Met Lys				
	420		425	430
Glu Gly Thr Ser Lys Phe Ala Asn Leu Asp Ser Ser Val Lys Glu Asn				
	435		440	445
Gln Lys Arg Thr Gln Arg Arg Leu Gln Leu Gln Lys Asp Met Gly Val				
	450		455	460
Met Gln Gly Thr Val Pro Tyr Leu Gly Thr Phe Leu Thr Asp Leu Thr				
465		470		475
Met Leu Asp Thr Ala Leu Gln Asp Tyr Ile Glu Gly Gly Leu Ile Asn				
	485		490	495
Phe Glu Lys Arg Arg Arg Glu Phe Glu Val Ile Ala Gln Ile Lys Leu				
	500		505	510
Leu Gln Ser Ala Cys Asn Ser Tyr Cys Met Thr Pro Asp Gln Lys Phe				
	515		520	525
Ile Gln Trp Phe Gln Arg Gln Gln Leu Leu Thr Glu Glu Glu Ser Tyr				
	530		535	540
Ala Leu Ser Cys Glu Ile Glu Ala Ala Ala Gly Ala Ser Thr Thr Ser				
545		550		555
Pro Lys Pro Arg Lys Ser Met Val Lys Arg Leu Ser Leu Leu Phe Leu				
	565		570	575
Gly Ser Asp Met Ile Thr Ser Pro Thr Pro Thr Lys Glu Gln Pro Lys				
	580		585	590
Ser Thr Ala Ser Gly Ser Ser Gly Glu Ser Met Asp Ser Val Ser Val				
	595		600	605
Ser Ser Cys Glu Ser Asn His Ser Glu Ala Glu Glu Gly Ser Ile Thr				
	610		615	620
Pro Met Asp Thr Pro Asp Glu Pro Gln Lys Lys Leu Ser Glu Ser Ser				
625		630		635
Ser Ser Cys Ser Ser Ile His Ser Met Asp Thr Asn Ser Ser Gly Met				
	645		650	655
Ser Ser Leu Ile Asn Pro Leu Ser Ser Pro Pro Ser Cys Asn Asn Asn				
	660		665	670
Pro Lys Ile His Lys Arg Ser Val Ser Val Thr Ser Ile Thr Ser Thr				
	675		680	685
Val Leu Pro Pro Val Tyr Asn Gln Gln Asn Glu Asp Thr Cys Ile Ile				
	690		695	700
Arg Ile Ser Val Glu Asp Asn Asn Gly Asn Met Tyr Lys Ser Ile Met				
705		710		715
Leu Thr Ser Gln Asp Lys Thr Pro Ala Val Ile Gln Arg Ala Met Leu				

				725					730					735					
Lys	His	Asn	Leu	Asp	Ser	Asp	Pro	Ala	Glu	Glu	Tyr	Glu	Leu	Val	Gln				
			740					745					750						
Val	Ile	Ser	Glu	Asp	Lys	Glu	Leu	Val	Ile	Pro	Asp	Ser	Ala	Asn	Val				
		755					760						765						
Phe	Tyr	Ala	Met	Asn	Ser	Gln	Val	Asn	Phe	Asp	Phe	Ile	Leu	Arg	Lys				
	770					775					780								
Lys	Asn	Ser	Met	Glu	Glu	Gln	Val	Lys	Leu	Arg	Ser	Arg	Thr	Ser	Leu				
785					790					795					800				
Thr	Leu	Pro	Arg	Thr	Ala	Lys	Arg	Gly	Cys	Trp	Ser	Asn	Arg	His	Ser				
			805					810						815					
Lys	Ile	Thr	Leu																
			820																

&lt;210&gt; 4127

&lt;211&gt; 2189

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4127

```

ccatgcttcc tgcctctggc caccagcaag ctgtcgggcg cagtggagca gtggctgagt
60
gcagctgagc ggctgtatgg gccctacatg tggggcaggc acgacattgt cttcctgcca
120
cctccttcc ccatcgtggc catggagaac cctgcctca cttcatcat ctctccatc
180
ctggagagcg atgagttcct ggtcatcgat gtcattccag aggtggccca cagttggttc
240
ggcaacgctg tcaccaacgc cactgaggaa gagatgtggc tgagcgaggc cctggccacc
300
tatgcccagc gccgtatcac caccgagacc tacgggtgctg ccttcacctg cctggagact
360
gccttccgcc tggacgccct gcaccggcag atgaagcttc tgggagagga cagcccggtc
420
agcaaactgc aggtcaagct ggagccagga gtgaatcca gccacctgat gaacctgttc
480
acctacgaga agggctactg cttcgtgtac tacctgtccc agctctgcgg agaccacag
540
cgctttgatg actttctccg agcctatgtg gagaagtaca agttcaccag cgtgggtggc
600
caggacctgc tggactcctt cctgagcttc ttcccggagc tgaaggagca gagcgtggac
660
tgccgggagc ggctggaatt cgagcgctgg ctcaatgcca caggcccgcc gctggctgag
720
ccggacctgt ctcagggatc cagcctgacc cggcccgctg aggccctttt ccagctgtgg
780
accgcagaac ctctggacca ggcagctgcc tccgccagcg ccattgacat ctccaagtgg
840
aggaccttcc agacagcact cttcctggac cggctcctgg atgggtcccc gctgccgcag
900
gaggtggtga tgagcctgtc caagtgttac tctccctgc tggactcgat gaacgctgag
960
atccgcatcc gctggctgca gattgtggtc cgcaacgact actatcctga cctccacagg
1020

```

gtgcggcgct tcctggagag ccagatgtca cgcattgtaca ccatcccgct gtacgaggac  
 1080  
 ctctgcaccg gtgccctcaa gtccttcgag ctggagggtct tctaccagac gcagggccgg  
 1140  
 ctgcacccca acctgcgcag agccatccag cagatcctgt cccagggcct gggctccagc  
 1200  
 acagagcccc cctcagagcc cagcacggag ctgggcaagg ctgaagcaga cacagactcg  
 1260  
 gacgcacagg ccctgctgct tggggacgag gccccagca gtgccatctc tctcagggac  
 1320  
 gtcaatgtgt ctgcctagcc ctgttggcgg gctgaccctc gacctcccag acaccacaat  
 1380  
 tgtgccttct gtgggccagg cctgccatga ctgcgtctcg gctctggcca tgagctctgc  
 1440  
 ccaggcccac aagccctcc cctgggctct cccaggcagg gagaatgggg agagggacct  
 1500  
 ccttgtgtct ggcagagacc tgtggacctg gcctccccac tcccagctct cttgcactgc  
 1560  
 aggccttggg gccagccgc acacaccatg cctcctgtct caacactgac agctgtgcct  
 1620  
 agccccgat gccagcacct gccagggtgc gccccggggc aagggcccca gcagccctat  
 1680  
 ggtgaccgcc aactgtgcc ttaatgtctg ccggggggccc aggctgtgct gtccctgcag  
 1740  
 cagcctcct tgcagggatc tgagccaccc tccccgcaca gcctgcacc cgcacctag  
 1800  
 ggttggcagc ctcaattggc ccctggcaga ggaacaagga cacagacatt ccctcagtgt  
 1860  
 ggggggcagg ggacacaggg agaggatggt tgcctctggg gagggccctc tggccccagg  
 1920  
 caaccttagc cctcagaac agggagtccc aggaccagg gagagtgtgg ggacaggaca  
 1980  
 gcctgtctct ttagcttcc tggggtggga ggcacagggg caaagcaata cccaggggaa  
 2040  
 agtgggaggt ggtgctggtg ctctctccag gccaccatg ctgggagagg cggccagagc  
 2100  
 ctggggcctc cagcctggga ctgctgtgat ggggtatcac ggtgatggtc ccattaaact  
 2160  
 tccactctgc aaacctgaaa aaaaaaaaaa  
 2189

&lt;210&gt; 4128

&lt;211&gt; 445

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4128

Pro	Cys	Phe	Leu	Pro	Ser	Ala	Thr	Ser	Lys	Leu	Ser	Gly	Ala	Val	Glu
1				5				10						15	
Gln	Trp	Leu	Ser	Ala	Ala	Glu	Arg	Leu	Tyr	Gly	Pro	Tyr	Met	Trp	Gly
			20					25					30		
Arg	Tyr	Asp	Ile	Val	Phe	Leu	Pro	Pro	Ser	Phe	Pro	Ile	Val	Ala	Met
		35					40					45			
Glu	Asn	Pro	Cys	Leu	Thr	Phe	Ile	Ile	Ser	Ser	Ile	Leu	Glu	Ser	Asp

50	55	60																	
Glu	Phe	Leu	Val	Ile	Asp	Val	Ile	His	Glu	Val	Ala	His	Ser	Trp	Phe				
65					70					75					80				
Gly	Asn	Ala	Val	Thr	Asn	Ala	Thr	Trp	Glu	Glu	Met	Trp	Leu	Ser	Glu				
				85					90					95					
Gly	Leu	Ala	Thr	Tyr	Ala	Gln	Arg	Arg	Ile	Thr	Thr	Glu	Thr	Tyr	Gly				
			100					105					110						
Ala	Ala	Phe	Thr	Cys	Leu	Glu	Thr	Ala	Phe	Arg	Leu	Asp	Ala	Leu	His				
	115						120					125							
Arg	Gln	Met	Lys	Leu	Leu	Gly	Glu	Asp	Ser	Pro	Val	Ser	Lys	Leu	Gln				
	130					135					140								
Val	Lys	Leu	Glu	Pro	Gly	Val	Asn	Pro	Ser	His	Leu	Met	Asn	Leu	Phe				
145					150					155					160				
Thr	Tyr	Glu	Lys	Gly	Tyr	Cys	Phe	Val	Tyr	Tyr	Leu	Ser	Gln	Leu	Cys				
			165						170					175					
Gly	Asp	Pro	Gln	Arg	Phe	Asp	Asp	Phe	Leu	Arg	Ala	Tyr	Val	Glu	Lys				
			180				185						190						
Tyr	Lys	Phe	Thr	Ser	Val	Val	Ala	Gln	Asp	Leu	Leu	Asp	Ser	Phe	Leu				
	195					200						205							
Ser	Phe	Phe	Pro	Glu	Leu	Lys	Glu	Gln	Ser	Val	Asp	Cys	Arg	Ala	Gly				
	210					215					220								
Leu	Glu	Phe	Glu	Arg	Trp	Leu	Asn	Ala	Thr	Gly	Pro	Pro	Leu	Ala	Glu				
225					230					235					240				
Pro	Asp	Leu	Ser	Gln	Gly	Ser	Ser	Leu	Thr	Arg	Pro	Val	Glu	Ala	Leu				
			245						250					255					
Phe	Gln	Leu	Trp	Thr	Ala	Glu	Pro	Leu	Asp	Gln	Ala	Ala	Ala	Ser	Ala				
	260						265						270						
Ser	Ala	Ile	Asp	Ile	Ser	Lys	Trp	Arg	Thr	Phe	Gln	Thr	Ala	Leu	Phe				
	275						280					285							
Leu	Asp	Arg	Leu	Leu	Asp	Gly	Ser	Pro	Leu	Pro	Gln	Glu	Val	Val	Met				
	290					295					300								
Ser	Leu	Ser	Lys	Cys	Tyr	Ser	Ser	Leu	Leu	Asp	Ser	Met	Asn	Ala	Glu				
305					310					315					320				
Ile	Arg	Ile	Arg	Trp	Leu	Gln	Ile	Val	Val	Arg	Asn	Asp	Tyr	Tyr	Pro				
			325						330					335					
Asp	Leu	His	Arg	Val	Arg	Arg	Phe	Leu	Glu	Ser	Gln	Met	Ser	Arg	Met				
	340						345						350						
Tyr	Thr	Ile	Pro	Leu	Tyr	Glu	Asp	Leu	Cys	Thr	Gly	Ala	Leu	Lys	Ser				
	355						360					365							
Phe	Ala	Leu	Glu	Val	Phe	Tyr	Gln	Thr	Gln	Gly	Arg	Leu	His	Pro	Asn				
	370					375					380								
Leu	Arg	Arg	Ala	Ile	Gln	Gln	Ile	Leu	Ser	Gln	Gly	Leu	Gly	Ser	Ser				
385					390					395					400				
Thr	Glu	Pro	Ala	Ser	Glu	Pro	Ser	Thr	Glu	Leu	Gly	Lys	Ala	Glu	Ala				
			405						410					415					
Asp	Thr	Asp	Ser	Asp	Ala	Gln	Ala	Leu	Leu	Leu	Gly	Asp	Glu	Ala	Pro				
	420						425					430							
Ser	Ser	Ala	Ile	Ser	Leu	Arg	Asp	Val	Asn	Val	Ser	Ala							
	435						440					445							

&lt;210&gt; 4129

&lt;211&gt; 1749

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens



<400> 4129  
 ctgggaccag ctctgctcct tgcaccccg ctcctgcctg gacacaggct cactcgctgc  
 60  
 cttcttcttg gggaaaccag cttcttgcca gccacagctg ctgcctccgc cactggccac  
 120  
 cgccctgtc ctgggagtcc cttggcccaa acaccacct gacttagtgg ctctctgca  
 180  
 ggaaagggg ctgccccctg cgttctcca tccaatcatg agctggtgcc catcaccact  
 240  
 gagaatgcac cagagaatgt agtggaccag ggagcaggag cctcccggg tggaacaca  
 300  
 cgaaaaagcc tcgaggacaa cggctccacc agggtcaccc cgagtgtcca gccccacct  
 360  
 cagcccatca gaaacatgag tgtgagccgg accatggagg acagctgtga gctggacctg  
 420  
 gtgtacgtca cagagaggat catcgctgtc tccttcccca gcacagccaa tgaggagaac  
 480  
 ttccggagca acctcctga ggtggcgag atgctcaagt ccaaactgg aggcaactac  
 540  
 ctgctgttca acctctctga gcggagacct gacatcacga agctccatgc caaggctactg  
 600  
 gaatttggt ggcccgacct ccacacccca gccctggaga agatctgcag catctgtaag  
 660  
 gccatggaca catggctcaa tgcagacct cacaatgtcg ttgttctaca caacaagga  
 720  
 aaccgaggca ggataggagt tgtcatcgcg gcttacatgc actacagcaa catttctgcc  
 780  
 agtgcggacc aggtctctga ccggtttgca atgaagcgg tctatgagga taagattgtg  
 840  
 cccattggcc agccatccca aagaaggtag gtgcattact tcagtggcct gctctccggc  
 900  
 tccatcaaaa tgaacaacaa gcccttgttt ctgcaccacg tgatcatgca cggcatcccc  
 960  
 aactttgagt ctaaaggagg atgtcggcca tttctccgca tctaccaggc catgcaacct  
 1020  
 gtgtacacat ctggcatcta caacatccca ggagacagcc agactagcgt ctgcatcacc  
 1080  
 atcgagccag gactgctctt gaaggagac atcttgctga agtgctacca caagaagttc  
 1140  
 cgaagcccag cccgagacgt catcttccgt gtgcagttcc acacctgtgc catccatgcc  
 1200  
 tggggggttg tctttgggaa ggaggacct gatgatgctt tcaaagatga tcgatttcca  
 1260  
 gagtatggca aagtggagtt tgtattttct tatgggcccag agaaaattca aggcattggag  
 1320  
 cacctggaga acgggcccag cgtgtctgtg gactataaca cctccgaccc cctcatccgc  
 1380  
 tgggactcct acgacaactt cagtgggcat cgagatgacg gcatggagga ggtgggtggga  
 1440  
 cacacgcagg ggccactaga tgggagcctg tatgctaagg tgaagaagaa agactccctg  
 1500  
 cacggcagca ccggggctgt taatgccaca cgtcctacac tgtcggccac ccccaaccac  
 1560

gtggaacaca cgctttctgt gagcagcgac tcgggcaact ccacagcctc caccaagacc  
 1620  
 gacaagaccg acgagcctgt ccccgggggcc tccagtgcc atgctgccc cactgtgacc  
 1680  
 atcctgggtt ggcaattcat cgtccaggat gtctgtctcc cgctcagatg ctaacgcccc  
 1740  
 accattgac  
 1749

<210> 4130

<211> 523

<212> PRT

<213> Homo sapiens

<400> 4130

Leu	Ser	Gly	Ser	Ser	Ala	Gly	Lys	Gly	Ala	Ala	Pro	Cys	Val	Pro	Pro
1				5					10					15	
Ser	Asn	His	Glu	Leu	Val	Pro	Ile	Thr	Thr	Glu	Asn	Ala	Pro	Glu	Asn
			20					25					30		
Val	Val	Asp	Gln	Gly	Ala	Gly	Ala	Ser	Arg	Gly	Gly	Asn	Thr	Arg	Lys
		35				40					45				
Ser	Leu	Glu	Asp	Asn	Gly	Ser	Thr	Arg	Val	Thr	Pro	Ser	Val	Gln	Pro
	50				55						60				
His	Leu	Gln	Pro	Ile	Arg	Asn	Met	Ser	Val	Ser	Arg	Thr	Met	Glu	Asp
65				70						75				80	
Ser	Cys	Glu	Leu	Asp	Leu	Val	Tyr	Val	Thr	Glu	Arg	Ile	Ile	Ala	Val
			85					90					95		
Ser	Phe	Pro	Ser	Thr	Ala	Asn	Glu	Glu	Asn	Phe	Arg	Ser	Asn	Leu	Arg
		100					105					110			
Glu	Val	Ala	Gln	Met	Leu	Lys	Ser	Lys	His	Gly	Gly	Asn	Tyr	Leu	Leu
		115				120						125			
Phe	Asn	Leu	Ser	Glu	Arg	Arg	Pro	Asp	Ile	Thr	Lys	Leu	His	Ala	Lys
	130					135					140				
Val	Leu	Glu	Phe	Gly	Trp	Pro	Asp	Leu	His	Thr	Pro	Ala	Leu	Glu	Lys
145				150						155				160	
Ile	Cys	Ser	Ile	Cys	Lys	Ala	Met	Asp	Thr	Trp	Leu	Asn	Ala	Asp	Pro
			165					170						175	
His	Asn	Val	Val	Leu	His	Asn	Lys	Gly	Asn	Arg	Gly	Arg	Ile	Gly	
		180					185					190			
Val	Val	Ile	Ala	Ala	Tyr	Met	His	Tyr	Ser	Asn	Ile	Ser	Ala	Ser	Ala
		195				200					205				
Asp	Gln	Ala	Leu	Asp	Arg	Phe	Ala	Met	Lys	Arg	Phe	Tyr	Glu	Asp	Lys
	210					215					220				
Ile	Val	Pro	Ile	Gly	Gln	Pro	Ser	Gln	Arg	Arg	Tyr	Val	His	Tyr	Phe
225				230						235				240	
Ser	Gly	Leu	Leu	Ser	Gly	Ser	Ile	Lys	Met	Asn	Asn	Lys	Pro	Leu	Phe
			245					250					255		
Leu	His	His	Val	Ile	Met	His	Gly	Ile	Pro	Asn	Phe	Glu	Ser	Lys	Gly
		260					265					270			
Gly	Cys	Arg	Pro	Phe	Leu	Arg	Ile	Tyr	Gln	Ala	Met	Gln	Pro	Val	Tyr
	275					280					285				
Thr	Ser	Gly	Ile	Tyr	Asn	Ile	Pro	Gly	Asp	Ser	Gln	Thr	Ser	Val	Cys
	290					295					300				
Ile	Thr	Ile	Glu	Pro	Gly	Leu	Leu	Leu	Lys	Gly	Asp	Ile	Leu	Leu	Lys

```
<210> 4131
<211> 608
<212> DNA
<213> Homo sapiens
```

```
<400> 4131
cgcccgccgc gggcgccgc gcccgccgc gggcgaggg cgccgggtct tgccccagaa
60
gctgcgggca catccacgcc tgaaatgcgc gcctcagtc ttgtcaggaa cccaggccac
120
aaaggcctga gacccgttta tgaagagctc gactctgact ccgaggacct agacccaat
180
cctgaagatc tggacccggt ttctgaagac ccagagcctg atcctgaaga cctcaacact
240
gtcccgaag acgtggaccc cagctatgaa gatctggagc ccgtctcgga ggatctggac
300
cccgacgccg aagctccggg ctccgaaccc caagatcccg accccatgtc ttcgagtttc
360
gacctcgatc cagatgtgat tggccccgta ccctgattc tcgatcctaa cagcgacacc
420
ctcagccccg gcgatccaaa agtggacccc nnatctctc tggcctcact gcgagcccc
480
aggtcttggc caccagcccc gcggtgctcc ccgccccgc cagcccgccc cggcccttct
540
cctgcccga ttgcggcgaa gccttcgcc gcagctccgc gctgagccag catcgccga
600
```

cgcacagc  
608

<210> 4132  
<211> 194  
<212> PRT  
<213> Homo sapiens

<400> 4132  
Arg Pro Ala Arg Ala Arg Arg Ala Gly Gln Gly Arg Gly Ala Pro Gly  
1 5 10 15  
Leu Ala Pro Glu Ala Ala Gly Thr Ser Thr Pro Glu Met Arg Arg Ser  
20 25 30  
Val Leu Val Arg Asn Pro Gly His Lys Gly Leu Arg Pro Val Tyr Glu  
35 40 45  
Glu Leu Asp Ser Asp Ser Glu Asp Leu Asp Pro Asn Pro Glu Asp Leu  
50 55 60  
Asp Pro Val Ser Glu Asp Pro Glu Pro Asp Pro Glu Asp Leu Asn Thr  
65 70 75 80  
Val Pro Glu Asp Val Asp Pro Ser Tyr Glu Asp Leu Glu Pro Val Ser  
85 90 95  
Glu Asp Leu Asp Pro Asp Ala Glu Ala Pro Gly Ser Glu Pro Gln Asp  
100 105 110  
Pro Asp Pro Met Ser Ser Ser Phe Asp Leu Asp Pro Asp Val Ile Gly  
115 120 125  
Pro Val Pro Leu Ile Leu Asp Pro Asn Ser Asp Thr Leu Ser Pro Gly  
130 135 140  
Asp Pro Lys Val Asp Pro Xaa Ser Pro Leu Ala Ser Leu Arg Ala Pro  
145 150 155 160  
Arg Ser Trp Pro Pro Ala Pro Arg Cys Ser Pro Pro Pro Pro Ala Arg  
165 170 175  
Pro Gly Pro Ser Pro Ala Arg Ile Ala Ala Lys Pro Ser Ala Ala Ala  
180 185 190  
Pro Gly

<210> 4133  
<211> 1646  
<212> DNA  
<213> Homo sapiens

<400> 4133  
tttttttttt tttttttttt tttttttttt tttttttttt ttaacgagtc tcaaattttt  
60  
attttgatgg caaaaatcac acagggaaga acaaaaatta tccatgacaa actaggagtg  
120  
gaaatgggct gggagacaca gaaaatgggt gccacagtt cctgggatcc ctctggaat  
180  
cctgggtttc cctcctagga ccctgcaagg taccctacgt gcctcctgga acccccccc  
240  
accccgagg tccaaggaa ccagtttga gaaccaaggc tttaggccaa ggacttcctt  
300  
gcacaagaag gtgcagatgt acagggatgg ttcagacagt ggcctcaacc tcaatggctt  
360

catcctcctc ctccagcagg ctgtaggaag catggctctg gcaaggccgc tgcaggggggt  
 420  
 gggccaacag tttcgccatg cagttgtgca actccagggc tggcccagcc agtgccacct  
 480  
 catacttgta gctggtaccc ttggtatcca ggctgcccac gaaggcaaac atatccttcc  
 540  
 aactcatctc ctctccttc tcctcagtgc cattgtggat gtaaacaacg tcaaagaaga  
 600  
 aatatgggca ctggaacatt ttcttcatgg gctccgtcaa ggagaactgg ggctggcaag  
 660  
 gtggacggct gtagacaagg atggtgcgga ccacatatgg cgggggaatc gtctgcacgt  
 720  
 tctctgtgac cggaagctca gttttctgct ggatgaggct gaaaagtcct tccagattga  
 780  
 aggtggaaca ggaggccgct tccagatcat agaggcagct acagagctcg cgggggtcgg  
 840  
 aggtcaggcc agacagccag gccgtgtcat cgttcaccac caccagtgc aactcgtggc  
 900  
 ttttgtcgat cttgtgtttt gtccgcacga acatctcaat catcttctgg gagacattga  
 960  
 gggcgttggt tttggagccg ttgaacgact ccagctttgg cagtgcacatt tcctctgaca  
 1020  
 ggtccaggca gataatcact ttctctggac agttgaccct tgggtgtccga atttggacct  
 1080  
 caggggctgg cgggggcacc tgccaggact tagggccggc tcctgaagtg ttgaggctcc  
 1140  
 catcatcagc actggcggcc tcacctcac cctcgctgcg gctgcccacg ctggcctgtg  
 1200  
 cccctactgc ccggtcctca gccccttcag gattggagcg agtgcggggc cgaggctctg  
 1260  
 ccgagtgtc ctcttctctc tcctcctctt cagtggggct gctgggctct gccacttcca  
 1320  
 tggctcctgt gtggcttcgg ctcaccgtag cctgaacctc cttctaaatc agccgccgac  
 1380  
 tcaactaggaa gccgccatct ttacagccgg aagttgtacg gcgcagcccc gacgcctcct  
 1440  
 gggaaatgta gttcagcggg ctgcagaaca agcagagaca gaaactggtt gaggctagaa  
 1500  
 agaacttgga aactgatagg ctgaaactgg gttgggggtg gggtttgag tgagagctgc  
 1560  
 ctggagctgg gtgcggcggg acctggaatg tgattggcta cactggagca aagtatgaaa  
 1620  
 tgtgattgga ttaaaaaaat tagtga  
 1646

&lt;210&gt; 4134

&lt;211&gt; 329

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4134

Met Glu Val Ala Glu Pro Ser Ser Pro Thr Glu Glu Glu Glu Glu  
 1 5 10 15  
 Glu Glu His Ser Ala Glu Pro Arg Pro Arg Thr Arg Ser Asn Pro Glu

```
<400> 4135
acgcgtggtg gccctggaca tgtacctcac tcagcaacgc atctccgacc cagtgatgga
60
gggtctgcga tcagccgtac gctatgacaa aacctatttc gacaagatcg tggccagcct
120
tctgccattg ctggaaaaac tgaccacagg ccggattgca gagctgctat ctcccgacta
180
catggatctt gaggaccac gaccaatctt tgactggatg cagatcatcc gcaaacgggc
240
```

agtggctctat gtcggcctgg acgctttatc tgatacagag gtagctgcag cgggtgggcaa  
 300  
 ctcgatgttc agcgacctgg tgtcagttgc gggtcacatc tataagtttg gcatcgatga  
 360  
 tggcttgccc gggggccaccg gcggcaag  
 388

<210> 4136  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 4136  
 Met Tyr Leu Thr Gln Gln Arg Ile Ser Asp Pro Val Met Glu Gly Leu  
 1 5 10 15  
 Arg Ser Ala Val Arg Tyr Asp Lys Thr Tyr Phe Asp Lys Ile Val Ala  
 20 25 30  
 Ser Leu Leu Pro Leu Leu Glu Lys Leu Thr Thr Gly Arg Ile Ala Glu  
 35 40 45  
 Leu Leu Ser Pro Asp Tyr Met Asp Leu Glu Asp Pro Arg Pro Ile Phe  
 50 55 60  
 Asp Trp Met Gln Ile Ile Arg Lys Arg Ala Val Val Tyr Val Gly Leu  
 65 70 75 80  
 Asp Ala Leu Ser Asp Thr Glu Val Ala Ala Val Gly Asn Ser Met  
 85 90 95  
 Phe Ser Asp Leu Val Ser Val Ala Gly His Ile Tyr Lys Phe Gly Ile  
 100 105 110  
 Asp Asp Gly Leu Pro Gly Ala Thr Gly Gly Lys  
 115 120

<210> 4137  
 <211> 2255  
 <212> DNA  
 <213> Homo sapiens

<400> 4137  
 cggacctccc gcgcgccccg cacccgaccg gctcagccgc cggcagcgta acacgccta  
 60  
 cgctcgcttg ctgcgcggcc tcagggcagg caggcgggcg cgggagaccc cgccggggcc  
 120  
 gagacttggg gcgggcgacg aggaccaggt tacggcctcc tcgccatgtc ctcggcctgc  
 180  
 gacgcgggcg accactaccc cctgcacctc ctagtctgga aaaacgacta ccggcagctc  
 240  
 gagaaggagc tgcagggcca gaatgtggag gctgtggacc cacgaggtcg aacattattg  
 300  
 catcttgctg tttccttggg acatttgga tctgctcgag tcttactccg acataaagca  
 360  
 gatgtgacaa aagaaaatcg ccagggatgg acagttttac atgaggctgt gagcactggc  
 420  
 gatcctgaga tgggtgtacac agttctccaa catcgagact accacaacac atccatggcc  
 480  
 cttgagggag ttcttgagct gctccaaaaa attctcgagg ctccggattt ctatgtgcag  
 540

atgaaatggg aattcaccag ctgggtgccc ttggtttcta gaatatgccc aaatgatgtc  
600  
tgtcgcacat ggaaaagtgg tgccaaactg cgcgtcgata tcacattgct gggatttgaa  
660  
aacatgagct ggataagagg gaggcgtagt tttatatatta agggagaaga caactgggcg  
720  
gagttaatgg aagtcaacca tgatgacaaa gtggtcacca ccgaacgctt cgacctttcc  
780  
caagaaatgg agcgcctcac tctggacttg atgaagccaa aaagcaggga agttgagcgg  
840  
cggctcacia gccctgtcat taacaccagc ctcgatacta aaaatattgc ttttgaaaga  
900  
actaaatccg gattctgggg ctggaggaca gataaagcag aagttgttaa tggttacgaa  
960  
gcaaaggttt acacagtaaa caatgtgaat gtgatcacca aaatacgcac agaacatctg  
1020  
accgaggagg aaaaaagag atataaagca gacaggaacc cgctggaatc tttgctggga  
1080  
actgtggaac accaatttgg tgcacaaggg gacctacca cggaatgtgc tactgcaaac  
1140  
aaccacacag ccatcacgcc tgatgagtac ttcaatgaag agtttgatct gnaaagacag  
1200  
ggacattggn aaggccgaaa gagctgacga ttagaacaca gaagttaaa gcaatgttgt  
1260  
ggatgtgtga agagtttccc ctctctctgg tggagcaggt cattcccatc attgacctaa  
1320  
tggctcgaac gagtgtcat tttgcaagac tgagagattt catcaaattg gaattccac  
1380  
ctggatttcc tgtcaaaata gaaattccct tgtttcatgt cttaaattgca cggattacat  
1440  
ttggaaatgt taatggctgt agcactgccg aagaatctgt atctcaaaat gtggaaggga  
1500  
cccaggctga ttcagcttcc cacatcacia actttgaggt tgatcaatct gtgtttgaaa  
1560  
ttcccgaatc ttactatgtt caagacaatg gcagaaatgt gcatttgcaa gatgaagatt  
1620  
acgagataat gcagtttgcc atccagcaaa gtctgctgga gtccagcagg agccaggaa  
1680  
tttcaggacc agcttcgaat ggagggatca gccagacaaa cacctatgac gccagtatg  
1740  
agagggccat ccaggagagc ctctcacca gcacagaagg cctgtgcccc agcgccctga  
1800  
gcgagacaag ccgttttgat aatgacttgc agctagccat ggagctctct gccaaagagc  
1860  
tggaggaatg ggagctccgg ctccaggagg aagaggctga gctccagcaa gtcttacagc  
1920  
tgtcactcac tgacaaatag acctttcagc ctgtgagcct ctgcacaaag cagaggctgt  
1980  
gggctgtcac agatgctgtg tcaaccaggg ccctagggct aagggcctgc accttgctg  
2040  
catgcagcag gcaacaactg ccccttcttt atgcagaggt gcagaaccag ggactcctgg  
2100  
gcccattccag gctgctccct ggggtggaga agggaccagg gattgcaggc cccatctcca  
2160



ggctaagggg aggagagcat catcactttc cattagctgt attggcttgc aggtcacatt  
 2220  
 tttactgccg gcattagaca aaaccccaat ccccg  
 2255

<210> 4138  
 <211> 353  
 <212> PRT  
 <213> Homo sapiens

<400> 4138  
 Met Ser Ser Ala Cys Asp Ala Gly Asp His Tyr Pro Leu His Leu Leu  
 1 5 10 15  
 Val Trp Lys Asn Asp Tyr Arg Gln Leu Glu Lys Glu Leu Gln Gly Gln  
 20 25 30  
 Asn Val Glu Ala Val Asp Pro Arg Gly Arg Thr Leu Leu His Leu Ala  
 35 40 45  
 Val Ser Leu Gly His Leu Glu Ser Ala Arg Val Leu Leu Arg His Lys  
 50 55 60  
 Ala Asp Val Thr Lys Glu Asn Arg Gln Gly Trp Thr Val Leu His Glu  
 65 70 75 80  
 Ala Val Ser Thr Gly Asp Pro Glu Met Val Tyr Thr Val Leu Gln His  
 85 90 95  
 Arg Asp Tyr His Asn Thr Ser Met Ala Leu Glu Gly Val Pro Glu Leu  
 100 105 110  
 Leu Gln Lys Ile Leu Glu Ala Pro Asp Phe Tyr Val Gln Met Lys Trp  
 115 120 125  
 Glu Phe Thr Ser Trp Val Pro Leu Val Ser Arg Ile Cys Pro Asn Asp  
 130 135 140  
 Val Cys Arg Ile Trp Lys Ser Gly Ala Lys Leu Arg Val Asp Ile Thr  
 145 150 155 160  
 Leu Leu Gly Phe Glu Asn Met Ser Trp Ile Arg Gly Arg Arg Ser Phe  
 165 170 175  
 Ile Phe Lys Gly Glu Asp Asn Trp Ala Glu Leu Met Glu Val Asn His  
 180 185 190  
 Asp Asp Lys Val Val Thr Thr Glu Arg Phe Asp Leu Ser Gln Glu Met  
 195 200 205  
 Glu Arg Leu Thr Leu Asp Leu Met Lys Pro Lys Ser Arg Glu Val Glu  
 210 215 220  
 Arg Arg Leu Thr Ser Pro Val Ile Asn Thr Ser Leu Asp Thr Lys Asn  
 225 230 235 240  
 Ile Ala Phe Glu Arg Thr Lys Ser Gly Phe Trp Gly Trp Arg Thr Asp  
 245 250 255  
 Lys Ala Glu Val Val Asn Gly Tyr Glu Ala Lys Val Tyr Thr Val Asn  
 260 265 270  
 Asn Val Asn Val Ile Thr Lys Ile Arg Thr Glu His Leu Thr Glu Glu  
 275 280 285  
 Glu Lys Lys Arg Tyr Lys Ala Asp Arg Asn Pro Leu Glu Ser Leu Leu  
 290 295 300  
 Gly Thr Val Glu His Gln Phe Gly Ala Gln Gly Asp Leu Thr Thr Glu  
 305 310 315 320  
 Cys Ala Thr Ala Asn Asn Pro Thr Ala Ile Thr Pro Asp Glu Tyr Phe  
 325 330 335  
 Asn Glu Glu Phe Asp Leu Xaa Arg Gln Gly His Trp Xaa Gly Arg Lys

340 345 350  
 Ser  
  
 <210> 4139  
 <211> 431  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 4139  
 acgcgtgtcc cccgcccctc gcagaggact gtctcccgt cagggcctct ctgcctcccc  
 60  
 gagtccaggg ccctcctgag cgccagcccg gaggtggttg tcgcagtggg attccctggg  
 120  
 ggtaagtgtc ctgttcctgt gcgcgtgccc tgagccccgc ctgggtccta ggccaccac  
 180  
 cgacactgcc cccacacag cgggaagtc cacctttctc aagaagcacc tcgtgtcggc  
 240  
 cggatatgtc cacgtgaaca gggatatgacc aggccttttgc cgccccaaat ctattataaa  
 300  
 gttcccatct ccacctctca actggtttgg ggcggttttc ctccatcatt gcctccccgt  
 360  
 ccccgctcgg ggtctctctc cccctggggg ctgccgatct gtttgtgacc tctcgtgtcc  
 420  
 ccaggacacg c  
 431  
  
 <210> 4140  
 <211> 50  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 4140  
 Thr Arg Val Pro Arg Pro Ser Gln Arg Thr Val Ser Arg Ser Gly Pro  
 1 5 10 15  
 Leu Cys Leu Pro Glu Ser Arg Ala Leu Leu Ser Ala Ser Pro Glu Val  
 20 25 30  
 Val Val Ala Val Gly Phe Pro Gly Gly Lys Cys Pro Val Pro Val Arg  
 35 40 45  
 Val Pro  
 50  
  
 <210> 4141  
 <211> 1182  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 4141  
 nnaccagctc cgcgcctcgg cctctccgcc ccctccccag cctttctctc gccctcttct  
 60  
 cccacactcc cggccggcgc ctcggtttg tgcgaggaga tgggtgtagc ccctggccgc  
 120  
 cgaaggagga gccggacact tgtctccgt ctccgagctg ctccccaccc ctggaggaga  
 180

gacccccccc tcggctcggc gccttctgcg tctcccggct ggtggggaag cctctgcgcc  
 240  
 gccggcacca tgagtgaaca gagtatctgt caggcaagag ctgctgtgat ggtttatgat  
 300  
 gatgccaaata agaagtgggt gccagctggt ggctcaactg gattcagcag agttcatatc  
 360  
 tatcaccata caggcaacaa cacattcaga gtggtgggca ggaagattca ggaccatcag  
 420  
 gtcgtgataa actgtgccat tcctaaaggg ttgaagtaca atcaagctac acagaccttc  
 480  
 caccagtggc gagatgctag acaggtgtat ggtctcaact ttggcagcaa agaggatgcc  
 540  
 aatgtcttcg caagtgccat gatgcatgcc ttagaagtgt taaattcaca ggaaacaggg  
 600  
 ccaacattgc ctagacaaaa ctcaacaact cctgctcaag ttcaaaatgg cccatcccaa  
 660  
 gaagaattgg aaattcaaag aagacaacta caagaacagc aacggcaaaa ggagctggag  
 720  
 cgggaaaggc tggagcgaga aagaatggaa agagaaaggc tggagagaga gaggttagaa  
 780  
 agggaaaggc tggagaggga gcgactggaa caagaacagc tggagagaga gagacaagaa  
 840  
 cgggaacggc aggaacgcct ggagcggcag gaacgcctgg agcggcagga acgcctggag  
 900  
 cggcaggaac gcctggatcg ggagagggaa agacaagaac gagagaggct ggagagactg  
 960  
 gaacgggaga ggcaagaaag ggagcgacaa gagcagttag aaagggaaca gctggaatgg  
 1020  
 gagagagagc gcagaatata aagtgtgtct gcccctgcct ctgttgagac tcctctaaac  
 1080  
 tctgtgtctg gagactcttc tgcttctgag ccaggcttgc aggcagcctc tcagccggcc  
 1140  
 gagactccat cccaacaggg cattgtcttg ggaccacttg ca  
 1182

&lt;210&gt; 4142

&lt;211&gt; 311

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4142

Met	Ser	Glu	Gln	Ser	Ile	Cys	Gln	Ala	Arg	Ala	Ala	Val	Met	Val	Tyr
1				5					10					15	
Asp	Asp	Ala	Asn	Lys	Lys	Trp	Val	Pro	Ala	Gly	Gly	Ser	Thr	Gly	Phe
			20					25					30		
Ser	Arg	Val	His	Ile	Tyr	His	His	Thr	Gly	Asn	Asn	Thr	Phe	Arg	Val
		35				40						45			
Val	Gly	Arg	Lys	Ile	Gln	Asp	His	Gln	Val	Val	Ile	Asn	Cys	Ala	Ile
	50				55						60				
Pro	Lys	Gly	Leu	Lys	Tyr	Asn	Gln	Ala	Thr	Gln	Thr	Phe	His	Gln	Trp
65					70					75				80	
Arg	Asp	Ala	Arg	Gln	Val	Tyr	Gly	Leu	Asn	Phe	Gly	Ser	Lys	Glu	Asp
			85					90						95	
Ala	Asn	Val	Phe	Ala	Ser	Ala	Met	Met	His	Ala	Leu	Glu	Val	Leu	Asn

	100		105		110										
Ser	Gln	Glu	Thr	Gly	Pro	Thr	Leu	Pro	Arg	Gln	Asn	Ser	Gln	Leu	Pro
	115						120					125			
Ala	Gln	Val	Gln	Asn	Gly	Pro	Ser	Gln	Glu	Glu	Leu	Glu	Ile	Gln	Arg
	130						135					140			
Arg	Gln	Leu	Gln	Glu	Gln	Gln	Arg	Gln	Lys	Glu	Leu	Glu	Arg	Glu	Arg
145					150					155					160
Leu	Glu	Arg	Glu	Arg	Met	Glu	Arg	Glu	Arg	Leu	Glu	Arg	Glu	Arg	Leu
				165					170					175	
Glu	Arg	Glu	Arg	Leu	Glu	Arg	Glu	Arg	Leu	Glu	Gln	Glu	Gln	Leu	Glu
			180					185					190		
Arg	Glu	Arg	Gln	Glu	Arg	Glu	Arg	Gln	Glu	Arg	Leu	Glu	Arg	Gln	Glu
	195						200					205			
Arg	Leu	Glu	Arg	Gln	Glu	Arg	Leu	Glu	Arg	Gln	Glu	Arg	Leu	Asp	Arg
	210					215					220				
Glu	Arg	Glu	Arg	Gln	Glu	Arg	Glu	Arg	Leu	Glu	Arg	Leu	Glu	Arg	Glu
225					230					235					240
Arg	Gln	Glu	Arg	Glu	Arg	Gln	Glu	Gln	Leu	Glu	Arg	Glu	Gln	Leu	Glu
				245					250					255	
Trp	Glu	Arg	Glu	Arg	Arg	Ile	Ser	Ser	Ala	Ala	Ala	Pro	Ala	Ser	Val
			260					265					270		
Glu	Thr	Pro	Leu	Asn	Ser	Val	Leu	Gly	Asp	Ser	Ser	Ala	Ser	Glu	Pro
	275						280					285			
Gly	Leu	Gln	Ala	Ala	Ser	Gln	Pro	Ala	Glu	Thr	Pro	Ser	Gln	Gln	Gly
	290					295					300				
Ile	Val	Leu	Gly	Pro	Leu	Ala									
305					310										

<210> 4143  
 <211> 1773  
 <212> DNA  
 <213> Homo sapiens

<400> 4143  
 tttttgacag atcaaagtag agtcatagat tttatttaaat taaaatagat taaaaacaga  
 60  
 ctgtgtaaaa gaattagaat tctcaataat ttactattat ttacattagc aaatgtcggg  
 120  
 cgttagtaga cactgagcag agaagcttga agaacgggga tcctctcctg tgggcagggg  
 180  
 agccccagct tccctcgtga ttcccgctct ttcaagttca ttatggcagc tctgtcaatg  
 240  
 agcaccacag ggtggtgtgg ccgcagcacc aggaccgcg ctgaaggccc agagacctgg  
 300  
 caggccggga agaaattcct ttcctttggg aagaaccacc aacgctcagt ccaagctcac  
 360  
 acggttatct agtcggcaat gccttcctctg ccctgcagcc aatacccccc actgtgctgg  
 420  
 gccttctgca aatactcctg gggttgaccc aaaccagtt tccagataaa agataaaaag  
 480  
 aaaaaaaaaa aggccacata tcccagttct cagagaaatc ctggattact aaacatcccc  
 540  
 tgctgtggc acctggaatg ggtgacttgt caaaatctcc ctcaagacgt tttgtgcgtt  
 600

tgccgtggga gggaatggtg gggagtcagg gtggctgggg ggcactagge cacttcacca  
 660  
 agagggatgc acctcccagg aagcagtagc agtgagagcg agccccacag gaactgtccc  
 720  
 tgccctggca gtgcgcaccc tgtgggcacc aagcagggag tgaagaccct cagaacacag  
 780  
 ccctgtctcc ggctgtgacc tcagcttget ggagactctg cggtcagcct ggcccactag  
 840  
 gageccctgc tgctccactt gcaggacacc caggcctcct ggcgtcagtg gggcctggga  
 900  
 cgtctgggag ttccagagct gggtcagcag ctgtgacat gggggccagc acagtggaca  
 960  
 gcatcagagc tggcagtga cagctgaggc gggggaggcc tgatagagag gttcagtccc  
 1020  
 aaatgtctgt ctggaagggg accaggtggt aatatgacag gttggtgacg taggctgctg  
 1080  
 ggtcgtcccc gtctccagc tctgagggaa actcactgcc attctcaa ataatgctctg  
 1140  
 ttgggtccac gccagctgc tgggtctctc catttggtat actgtggtca ataactattg  
 1200  
 tttcgggtatt tgctaaacaa aatccattgg acctcatgat ttctgatatt ttgactggac  
 1260  
 tttgaaagct gggttgaatt ttatgcacat tatcattttt taacacctga tccagaggag  
 1320  
 atctttcgaa gaaggtgagc acaacttccg atctagaata ttacagggc atgcttatga  
 1380  
 tcgtcttcag cagcttctcc acctcattaa gcctgggtctc tatgtcgtgg gcttccttta  
 1440  
 tggcaaccag tccttgccgc agcgggccct gcgccagttc ggaccggtcc tcgggaaagg  
 1500  
 cgctgcgcag gcgtgccac aggcggccca ggtccgccag gctgcggtgc aggtagagca  
 1560  
 cgctgcggtc cgaccactcc gtgcggatct cgaagaactc ctcttcgctc ccgcgccggc  
 1620  
 tgacgatgag cctgcggatg ccgttcaccc agcagccgcg cacgaacatg ttcacgagcg  
 1680  
 acgtgccctc aaacaccgcc gaggccatgt cgcacgcatg ccccgccaa gggctcccca  
 1740  
 gccccgccgc ccgccccgcc gcaggaggcg cgc  
 1773

&lt;210&gt; 4144

&lt;211&gt; 231

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4144

Met	Ala	Ser	Ala	Val	Phe	Glu	Gly	Thr	Ser	Leu	Val	Asn	Met	Phe	Val
1				5				10				15			
Arg	Gly	Cys	Trp	Val	Asn	Gly	Ile	Arg	Arg	Leu	Ile	Val	Ser	Arg	Arg
		20					25					30			
Gly	Asp	Glu	Glu	Glu	Phe	Phe	Glu	Ile	Arg	Thr	Glu	Trp	Ser	Asp	Arg
		35					40					45			
Ser	Val	Leu	Tyr	Leu	His	Arg	Ser	Leu	Ala	Asp	Leu	Gly	Arg	Leu	Trp

50                      55                      60  
 Gln Arg Leu Arg Asp Ala Phe Pro Glu Asp Arg Ser Glu Leu Ala Gln  
 65                      70                      75                      80  
 Gly Pro Leu Arg Gln Gly Leu Val Ala Ile Lys Glu Ala His Asp Ile  
                     85                      90                      95  
 Glu Thr Arg Leu Asn Glu Val Glu Lys Leu Leu Lys Thr Ile Ile Ser  
                     100                      105                      110  
 Met Pro Cys Lys Tyr Ser Arg Ser Glu Val Val Leu Thr Phe Phe Glu  
                     115                      120                      125  
 Arg Ser Pro Leu Asp Gln Val Leu Lys Asn Asp Asn Val His Lys Ile  
                     130                      135                      140  
 Gln Pro Ser Phe Gln Ser Pro Val Lys Ile Ser Glu Ile Met Arg Ser  
 145                      150                      155                      160  
 Asn Gly Phe Cys Leu Ala Asn Thr Glu Thr Ile Val Ile Asp His Ser  
                     165                      170                      175  
 Ile Pro Asn Gly Arg Asp Gln Gln Leu Gly Val Asp Pro Thr Glu His  
                     180                      185                      190  
 Leu Phe Glu Asn Gly Ser Glu Phe Pro Ser Glu Leu Glu Asp Gly Asp  
                     195                      200                      205  
 Asp Pro Ala Ala Tyr Val Thr Asn Leu Ser Tyr Tyr His Leu Val Pro  
                     210                      215                      220  
 Phe Glu Thr Asp Ile Trp Asp  
 225                      230

<210> 4145  
 <211> 400  
 <212> DNA  
 <213> Homo sapiens

<400> 4145  
 nnaacccttg agatgctggc tggagaccct ctactctcag aagacccaga acctgacaag  
 60  
 acccctgcag ccactgttac caacgaagcc agctgttgga gcggcccctc cccagagggg  
 120  
 cctgtacccc tcacagggga ggaactggac ttgcggctca ttcggacaaa ggggggtgtg  
 180  
 gacgcagccc tggaatatgc caagacctgg agccgctatg ccaaggaact gcttgccctgg  
 240  
 actgaaaaga gagccagcta tgagctggag tttgctaaga gcaccatgaa gatcgtgaa  
 300  
 gctggcaagg tgtccattca acagcagagc cacatgcctc tgcagtacat ctacaccctg  
 360  
 tttctggagc acgatctcag cctgggaacc ctggccatgg  
 400

<210> 4146  
 <211> 133  
 <212> PRT  
 <213> Homo sapiens

<400> 4146  
 Xaa Thr Leu Glu Met Leu Ala Gly Asp Pro Leu Leu Ser Glu Asp Pro  
 1                      5                      10                      15  
 Glu Pro Asp Lys Thr Pro Ala Ala Thr Val Thr Asn Glu Ala Ser Cys

			20					25					30				
Trp	Ser	Gly	Pro	Ser	Pro	Glu	Gly	Pro	Val	Pro	Leu	Thr	Gly	Glu	Glu		
		35					40					45					
Leu	Asp	Leu	Arg	Leu	Ile	Arg	Thr	Lys	Gly	Gly	Val	Asp	Ala	Ala	Leu		
	50					55					60						
Glu	Tyr	Ala	Lys	Thr	Trp	Ser	Arg	Tyr	Ala	Lys	Glu	Leu	Leu	Ala	Trp		
65					70				75					80			
Thr	Glu	Lys	Arg	Ala	Ser	Tyr	Glu	Leu	Glu	Phe	Ala	Lys	Ser	Thr	Met		
			85				90						95				
Lys	Ile	Ala	Glu	Ala	Gly	Lys	Val	Ser	Ile	Gln	Gln	Gln	Ser	His	Met		
		100					105						110				
Pro	Leu	Gln	Tyr	Ile	Tyr	Thr	Leu	Phe	Leu	Glu	His	Asp	Leu	Ser	Leu		
	115						120					125					
Gly	Thr	Leu	Ala	Met													
	130																

&lt;210&gt; 4147

&lt;211&gt; 4892

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4147

```

nnaaatgtag agaagcagcc gataaaatag cattgcctga agaagtttgg aggctgagag
60
cagcagtaga ctggccaact gcagagcaag ttgtttctcc agccgtgcgg tgcagcctca
120
tgcccccaac ccagcttagc cactgtaaga agacgttcac tgtacagacg accaaacttg
180
ccgtggaaga gacagttgtg agattccctt gcaaatttac atacgagaat ggcttgtgaa
240
atcatgcctc tgcaaagttc acaggaagat gaaagacctc tgtcaccttt ctatttgagt
300
gtcatgtac cccaagtcag caatgtgtct gcaaccggag aactcttaga aagaaccatc
360
cgatcagctg tagaacaaca tctttttgat gttaataact ctggaggtca aagttcagag
420
gactcagaat ctggaacact atcagcatct tctgccacat ctgccagaca gcgccgccgc
480
cagtccaagg agcaggatga agttcgacat gggagagaca agggacttat caacaaagaa
540
aatactcctt ctgggttcaa ccaccttgat gattgtattt tgaataactca ggaagtcgaa
600
aaggtacaca aaaatacttt tggttgtgct ggagaaagga gcaagcctaa acgtcagaaa
660
tccagtacta aactttctga gcttcatgac aatcaggacg gtcttgtgaa tatggaaagt
720
ctcaattcca cacgatctca tgagagaact ggacctgatg attttgaatg gatgtctgat
780
gaaaggaaag gaaatgaaaa agatggtgga cacactcagc attttgagag cccacaaatg
840
aagatccagg agcatcccag cctatctgac accaaacagc agagaaatca agatgccggt
900
gaccaggagg agagctttgt ctccgaagtg cccagtcgg acctgactgc attgtgtgat
960

```

gaaaagaact gggaagagcc tatccctgct ttctcctcct ggcagcggga gaacagtgc  
1020  
tctgatgaag ccacacctctc gccgcaggct gggcgctga tccgtcagct gctggacgaa  
1080  
gacagcgacc ccatgctctc tcctcggttc tacgcttatg ggcagagcag gcaatacctg  
1140  
gatgacacag aagtgcctcc ttccccacca aactcccatt ctttcatgag gcggcgaagc  
1200  
tcctctctgg ggtcctatga tgatgagcaa gaggacctga cacctgcccga gctcacacga  
1260  
aggattcaga gccttaaaaa gaagatccgg aagtttgaag atagattcga agaagagaag  
1320  
aagtacagac cttcccacag tgacaaagca gccaatccgg aggttctgaa atggacaaat  
1380  
gaccttgcca aattccggag acaacttaaa gaatcaaac taaagatatc tgaagaggac  
1440  
ctaactccca ggatgcggca gcgaagcaac aactcccca agagttttgg ttcccaactt  
1500  
gagaaagaag atgagaagaa gcaagagctg gtggataaag caataaagcc cagtgttgaa  
1560  
gccacattgg aatctattca gaggaagctc caggagaagc gagcggaaaag cagccgcctt  
1620  
gaggacatta aggatatgac caaagaccag attgctaattg agaaagtggc tctgcagaaa  
1680  
gctctgttat attatgaaag cattcatgga cggccggtaa caaagaacga acggcagggtg  
1740  
atgaagccac tatacgacag gtaccggctg gtcaaacaga tcctctcccg agctaaccac  
1800  
atacccatca ttggttcccc ctccagcaag cggagaagcc ctttgctgca gccattatc  
1860  
gagggcgaaa ctgcttcctt cttcaaggag ataaaggaag aagaggaggg gtcagaagac  
1920  
gatagcaatg tgaagccaga cttcatggc actctgaaaa ccgatttcag tgcacgatgc  
1980  
tttctggacc aattcgaaga tgacgctgat ggatttattt cccaatgga tgataaaata  
2040  
ccatcaaaat gcagccagga cacagggctt tcaaatctcc atgctgcctc aatacctgaa  
2100  
ctcctggaac acctccagga aatgagagaa gaaaagaaaa ggattcgaaa gaaacttcgg  
2160  
gattttgaag acaacttttt cagacagaat ggaagaaatg tccagaagga agaccgact  
2220  
cctatggctg aagaatacag tgaatataag cacataaagg cgaaactgag gctcctggag  
2280  
gtgctcatca gcaagagaga cactgattcc aagtccatgt gaggggcatg gccaaagcaca  
2340  
gggggctggc agctgcgggtg agagtctact gtccccagag aaagtgcagc tctggaaggc  
2400  
agccttgggg ctggccctgc aaagcatgca gcccttctgc ctctagacca tttggcatcg  
2460  
gctcctgttt ccattgcctg ccttagaaac tggttggaag aagacaatgt gacctgactt  
2520  
aggcattttg taattggaaa gtcaagactg cagtatgtgc acatgcgcac gcgcatgcac  
2580



gcacacacac acacagtagt ggagctttcc taacactagc agagattaat cactacatta  
2640  
gacaacactc atctacagag aatatacact gttcttccct ggataactga gaaacaagag  
2700  
accattctct gtctaactgt gataaaaaca agctcaggac tttattctat agagcaaact  
2760  
tgctgtggag ggccatgctc tccttggacc cagttaactg caaacgtgca ttggagccct  
2820  
atttgctgcc gctgccattc tagtgacctt tccacagagc tgcgccttcc tcacgtgtgt  
2880  
gaaaggtttt ccccttcagc cctcaggtag atggaagctg catctgcca cgatggcagt  
2940  
gcagtcacat tcttcaggat gtttcttcag gacttcctca gctgacaagg aattttggct  
3000  
cctgcctagg accgggtcat ctgcagagga cagagagatg gtaagcagct gtatgaatgc  
3060  
tgattttaaa accagggtcat gggagaagag cctggagatt ctttctgaa cactgactgc  
3120  
acttaccagt ctgattttat cgtcaaacac caagccaggc tagcatgctc atggcaatct  
3180  
gtttggggct gttttgttgt ggcactagcc aaacataaag gggcttaagt cagcctgcat  
3240  
acagaggatc ggggagagaa ggggcctgtg ttctcagcct cctgagtact taccagagtt  
3300  
taattttttt aaaaaaaatc tgcactaaaa tccccaaact gacaggtaaa tgtagccctc  
3360  
agagctcagc ccaaggcaga atctaaatca cactattttc gagatcatgt ataaaaagaa  
3420  
aaaaaagaag tcatgctgtg tggccaatta taattttttt caaagacttt gtcacaaaaac  
3480  
tgtctatatt agacattttg gagggaccag gaaatgtaag acaccaaate ctccatctct  
3540  
tcagtgtgcc tgatgtcacc tcatgatttg ctgttacttt ttttaactcct gcgccaagga  
3600  
cagtgggttc tgtgtccacc tttgtgcttt gcgaggccga gccagggcat ctgctgcct  
3660  
gccacggctg accagagaag gtgcttcagg agctctgcct tagacgacgt gttacagtat  
3720  
gaacacacag cagaggcacc ctctgtatgt ttgaaagttg ccttctgaaa gggcacagtt  
3780  
ttaaggaaaa gaaaaagaat gtaaaactat actgaccctg tttcagtttt aaagggtcgt  
3840  
gagaaactgg ctggtccaat gggatttaca gcaacatttt ccattgctga agtgaggtag  
3900  
cagctctctt ctgtcagctg aatgttaagg atggggaaaa agaatgcctt taagtttgct  
3960  
cttaatcgta tggaagcttg agctatgtgt tggaagtgcc ctggttttta tccatacaca  
4020  
aagacggtac ataatcctac aggttttaaat gtacataaaa atatagtttg gaattctttg  
4080  
ctctactgtt tacattgcag attgctataa tttcaaggag tgagattata aataaaatga  
4140  
tgcactttag gatgtttcct atttttgaaa tctgaacatg aatcattcac atgacaaaaa  
4200

attgtgtttt tttaaaaata catgtctagt ctgtccttta atagctctct taaataagct  
 4260  
 atgatattaa tcagatcatt accagtttagc ttttaaagca catttgttta agactatggt  
 4320  
 tttggaaaaa tacgctacag aatttttttt taagctacaa ataaatgaga tgctactaat  
 4380  
 tgttttggaa tctgttggtt ctgccaaagg taaattaact aaagatttat tcaggaatcc  
 4440  
 ccatttgaat ttgtatgatt caataaaaga aaacaccaag taagttatat aaaataaatt  
 4500  
 gtgtatgaga tgttggtgtt tcctttgtaa tttccactaa ctaactaact aacttatatt  
 4560  
 cttcatggaa tggagcccag aagaaatgag aggaagccct tttcacacta gatcttattt  
 4620  
 gaagaaatgt ttgttagtca gtcagtcagt ggtttctggc tctgccgagg gagatgtggt  
 4680  
 cccagcaac catttctgca gcccagaatc tcaaggcact agaggcgggtg tcttaattaa  
 4740  
 ttggcttcac aaagacaaaa tgctctggac tgggattttt cctttgctgt gttgggaata  
 4800  
 tgtgtttatt aattagcaca tgccaacaaa ataaatgtca agagttattt cataagtgt  
 4860  
 agtaaactta agaatcnaag agtgccgact ta  
 4892

<210> 4148  
 <211> 697  
 <212> PRT  
 <213> Homo sapiens

<400> 4148  
 Met Ala Cys Glu Ile Met Pro Leu Gln Ser Ser Gln Glu Asp Glu Arg  
 1 5 10 15  
 Pro Leu Ser Pro Phe Tyr Leu Ser Ala His Val Pro Gln Val Ser Asn  
 20 25 30  
 Val Ser Ala Thr Gly Glu Leu Leu Glu Arg Thr Ile Arg Ser Ala Val  
 35 40 45  
 Glu Gln His Leu Phe Asp Val Asn Asn Ser Gly Gly Gln Ser Ser Glu  
 50 55 60  
 Asp Ser Glu Ser Gly Thr Leu Ser Ala Ser Ser Ala Thr Ser Ala Arg  
 65 70 75 80  
 Gln Arg Arg Arg Gln Ser Lys Glu Gln Asp Glu Val Arg His Gly Arg  
 85 90 95  
 Asp Lys Gly Leu Ile Asn Lys Glu Asn Thr Pro Ser Gly Phe Asn His  
 100 105 110  
 Leu Asp Asp Cys Ile Leu Asn Thr Gln Glu Val Glu Lys Val His Lys  
 115 120 125  
 Asn Thr Phe Gly Cys Ala Gly Glu Arg Ser Lys Pro Lys Arg Gln Lys  
 130 135 140  
 Ser Ser Thr Lys Leu Ser Glu Leu His Asp Asn Gln Asp Gly Leu Val  
 145 150 155 160  
 Asn Met Glu Ser Leu Asn Ser Thr Arg Ser His Glu Arg Thr Gly Pro  
 165 170 175  
 Asp Asp Phe Glu Trp Met Ser Asp Glu Arg Lys Gly Asn Glu Lys Asp

180 185 190  
 Gly Gly His Thr Gln His Phe Glu Ser Pro Thr Met Lys Ile Gln Glu  
 195 200 205  
 His Pro Ser Leu Ser Asp Thr Lys Gln Gln Arg Asn Gln Asp Ala Gly  
 210 215 220  
 Asp Gln Glu Glu Ser Phe Val Ser Glu Val Pro Gln Ser Asp Leu Thr  
 225 230 235 240  
 Ala Leu Cys Asp Glu Lys Asn Trp Glu Glu Pro Ile Pro Ala Phe Ser  
 245 250 255  
 Ser Trp Gln Arg Glu Asn Ser Asp Ser Asp Glu Ala His Leu Ser Pro  
 260 265 270  
 Gln Ala Gly Arg Leu Ile Arg Gln Leu Leu Asp Glu Asp Ser Asp Pro  
 275 280 285  
 Met Leu Ser Pro Arg Phe Tyr Ala Tyr Gly Gln Ser Arg Gln Tyr Leu  
 290 295 300  
 Asp Asp Thr Glu Val Pro Pro Ser Pro Pro Asn Ser His Ser Phe Met  
 305 310 315 320  
 Arg Arg Arg Ser Ser Ser Leu Gly Ser Tyr Asp Asp Glu Gln Glu Asp  
 325 330 335  
 Leu Thr Pro Ala Gln Leu Thr Arg Arg Ile Gln Ser Leu Lys Lys Lys  
 340 345 350  
 Ile Arg Lys Phe Glu Asp Arg Phe Glu Glu Glu Lys Lys Tyr Arg Pro  
 355 360 365  
 Ser His Ser Asp Lys Ala Ala Asn Pro Glu Val Leu Lys Trp Thr Asn  
 370 375 380  
 Asp Leu Ala Lys Phe Arg Arg Gln Leu Lys Glu Ser Lys Leu Lys Ile  
 385 390 395 400  
 Ser Glu Glu Asp Leu Thr Pro Arg Met Arg Gln Arg Ser Asn Thr Leu  
 405 410 415  
 Pro Lys Ser Phe Gly Ser Gln Leu Glu Lys Glu Asp Glu Lys Lys Gln  
 420 425 430  
 Glu Leu Val Asp Lys Ala Ile Lys Pro Ser Val Glu Ala Thr Leu Glu  
 435 440 445  
 Ser Ile Gln Arg Lys Leu Gln Glu Lys Arg Ala Glu Ser Ser Arg Pro  
 450 455 460  
 Glu Asp Ile Lys Asp Met Thr Lys Asp Gln Ile Ala Asn Glu Lys Val  
 465 470 475 480  
 Ala Leu Gln Lys Ala Leu Leu Tyr Tyr Glu Ser Ile His Gly Arg Pro  
 485 490 495  
 Val Thr Lys Asn Glu Arg Gln Val Met Lys Pro Leu Tyr Asp Arg Tyr  
 500 505 510  
 Arg Leu Val Lys Gln Ile Leu Ser Arg Ala Asn Thr Ile Pro Ile Ile  
 515 520 525  
 Gly Ser Pro Ser Ser Lys Arg Arg Ser Pro Leu Leu Gln Pro Ile Ile  
 530 535 540  
 Glu Gly Glu Thr Ala Ser Phe Phe Lys Glu Ile Lys Glu Glu Glu Glu  
 545 550 555 560  
 Gly Ser Glu Asp Asp Ser Asn Val Lys Pro Asp Phe Met Val Thr Leu  
 565 570 575  
 Lys Thr Asp Phe Ser Ala Arg Cys Phe Leu Asp Gln Phe Glu Asp Asp  
 580 585 590  
 Ala Asp Gly Phe Ile Ser Pro Met Asp Asp Lys Ile Pro Ser Lys Cys  
 595 600 605  
 Ser Gln Asp Thr Gly Leu Ser Asn Leu His Ala Ala Ser Ile Pro Glu

610		615		620
Leu Leu Glu His Leu Gln Glu Met Arg Glu Glu Lys Lys Arg Ile Arg				
625		630		635
Lys Lys Leu Arg Asp Phe Glu Asp Asn Phe Phe Arg Gln Asn Gly Arg				640
	645		650	655
Asn Val Gln Lys Glu Asp Arg Thr Pro Met Ala Glu Glu Tyr Ser Glu				
	660		665	670
Tyr Lys His Ile Lys Ala Lys Leu Arg Leu Leu Glu Val Leu Ile Ser				
	675		680	685
Lys Arg Asp Thr Asp Ser Lys Ser Met				
690		695		

&lt;210&gt; 4149

&lt;211&gt; 1396

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4149

```

nacaggggaa ataccgcggc gccggtagtt gctgtggttt ccgtttctgag ctgcagctt
60
aggagctgaa gatcgcggaac ttagcggttg cgcgtccgag tccggccatc agtggctgca
120
gatccggagg ccaggagctc aaccaccctt cttcggaaca gggccggcct gctgctgtgc
180
cctcgacgct cgggtgcctgt atctactccg gggcctaggt cggctccggg ggaggcttag
240
gagaaggccg ccggcgagat gttcaaaaac acgttccaga gcggcttcct ctccatcctc
300
tacagcatcg gcagcaagcc tctgcaaate tgggacaaaa aggtacggaa tggccacatc
360
aaaagaatca ctgataatga catccagtcc ctgggtgctag agattgaagg gacaaatgta
420
agcaccacat atatcacatg ccctgcagac cccaagaaga cgctgggaat taaacttctc
480
ttccttgta tgattatcaa aaacctgaag aagtatttta ccttcgaagt gcaggtacta
540
gatgacaaga atgtgcgtcg tcgctttcgg gcaagtaact accagagcac caccgggtc
600
aaacccttca tctgcacat gcccatgcgg ctggatgacg gctggaacca gattcagttc
660
aacttgctag acttcacacg gcgagcatac ggcaccaatt acatcgagac cctcagagtg
720
cagatccatg caaattgtcg catccgacgg gtttacttct cagacagact ctactcagaa
780
gatgagctgc cggcagagtt caaactgtat ctcccagttc agaacaaggc aaagcaataa
840
ctggaattgt gactcgaggg atagaccctt ggatgtgact cttcttttta aaaggaaact
900
atgtggagga cgatgcaaaa acatatttat cttagtttgc tctgctgtag ttctgttatt
960
tataacttggg gttgcttgta atggacaccg gtgaacatgc cgtaactctg tgactgcatt
1020
gtaagtgcag tgggggtaag cagtcctgtg agtggcgcat gaacgctgga gcttattccg
1080

```

ccgcctgccc cagtgtgggg ggagatacct ttaccatgaa cttacagaat taaagatggc  
 1140  
 ccataaggaa ttccagacca atatttcttc ctgcggttta ttctatgttt tatatattat  
 1200  
 ctaaatatat gtatatgctg tgtcatactc ataatctgga aatgaataaa gtgatatatt  
 1260  
 cctggtttgt aaaaaaaaaa aaaaaatttg ctataaaatg agaagtctca ctgatagagg  
 1320  
 ttctttattg ctcatTTTTT aaaaaatgga ctcttgaaat ctgttaaaat aaaattgtac  
 1380  
 atttggaataa aaaaaa  
 1396

<210> 4150  
 <211> 193  
 <212> PRT  
 <213> Homo sapiens

<400> 4150  
 Met Phe Lys Asn Thr Phe Gln Ser Gly Phe Leu Ser Ile Leu Tyr Ser  
   1                  5                  10                  15  
 Ile Gly Ser Lys Pro Leu Gln Ile Trp Asp Lys Lys Val Arg Asn Gly  
                   20                  25                  30  
 His Ile Lys Arg Ile Thr Asp Asn Asp Ile Gln Ser Leu Val Leu Glu  
                   35                  40                  45  
 Ile Glu Gly Thr Asn Val Ser Thr Thr Tyr Ile Thr Cys Pro Ala Asp  
   50                  55                  60  
 Pro Lys Lys Thr Leu Gly Ile Lys Leu Pro Phe Leu Val Met Ile Ile  
 65                  70                  75                  80  
 Lys Asn Leu Lys Lys Tyr Phe Thr Phe Glu Val Gln Val Leu Asp Asp  
                   85                  90                  95  
 Lys Asn Val Arg Arg Arg Phe Arg Ala Ser Asn Tyr Gln Ser Thr Thr  
                   100                  105                  110  
 Arg Val Lys Pro Phe Ile Cys Thr Met Pro Met Arg Leu Asp Asp Gly  
                   115                  120                  125  
 Trp Asn Gln Ile Gln Phe Asn Leu Leu Asp Phe Thr Arg Arg Ala Tyr  
   130                  135                  140  
 Gly Thr Asn Tyr Ile Glu Thr Leu Arg Val Gln Ile His Ala Asn Cys  
 145                  150                  155                  160  
 Arg Ile Arg Arg Val Tyr Phe Ser Asp Arg Leu Tyr Ser Glu Asp Glu  
                   165                  170                  175  
 Leu Pro Ala Glu Phe Lys Leu Tyr Leu Pro Val Gln Asn Lys Ala Lys  
                   180                  185                  190  
 Gln

<210> 4151  
 <211> 1372  
 <212> DNA  
 <213> Homo sapiens

<400> 4151  
 ttatatTTTTT tttttttttt tttttttttt cacggacaga cagggtcggt tgtcacagca  
 60

gagaagcacc tcacggctcc taccgcact catcgcgac agtgctgca gcgaggcg  
 120  
 cgcgagcacc ctccccagat gaaaacacca gcaccaggag gtgggcccgt gcccaggctg  
 180  
 agggaggagg ctgggggctg gggctcagg ccccccccg gccacagcgc caccctgagt  
 240  
 ggccctgaaa atagtgcaca gtgctgggta ctgccccggc tggaggcacc tagttgtga  
 300  
 gcattccggc cacaggccac ccgctggccc ttccttggtg tggcacgaga ccacgggcac  
 360  
 ttgcaggagc tccctgcatg ctgttttctg ctttggtctc agggagcacc ctctacctc  
 420  
 ggggtccag agtgggcagc cgggcagggt tgaacagtgt gacaagggtta ccgtggggca  
 480  
 cctggtagtg ccaaccaga ggggcagccg gtgctcctgg tgggtgtggca gcaacagtta  
 540  
 caaactcacc ccaagtccaa accccagaaa tctgtttct ctggccctcc ggtccagaa  
 600  
 tgccctgcac tgccctcctgg cctcaggggc tgctgcggtg gtgggaaggc tgcccagcag  
 660  
 tgaggaaggc gagggcagg gctgcggccg cggtcagaga aggagagaca ccagcagagg  
 720  
 acgcgaagct ggaccggcca ggttcagagc ccgcctcggc tgctcccaat cagaatctgc  
 780  
 tttgtgctcc acggcctcca agcactttca tgagcgttct gctcctacgt ggccaggctc  
 840  
 taccttcctc gacggctctg gccaggccag ctcggtttcc ctctaaccac tgaggcctgg  
 900  
 gggggctgtg acagaggctg gaaccgcggc cagagcccag gggcaggccc gcctggtcac  
 960  
 agcaggatga ggctgggggtg gcgcagctgc cggtagacct gtagcagcct ctgggagggtg  
 1020  
 gcacaggagc tggcctcatc ctccgtgcag agccggctgc gcagggtctg cactcccg  
 1080  
 agcagtgtct cgtggttggc gtggatctgg cggaggtact gcacacggag atcaggagcg  
 1140  
 ctggagccct gggcgccctg ctctgtcacc atcgtctgca tgcgcccgc aacggcatgg  
 1200  
 tgcgccctgc aaatgtcggc cagagaggag ctttccactt gaatctccac ggcctggatg  
 1260  
 gcgctgctgg gcacaggctg gtcattggcca cctctcggac gatgagggtg acgttggcgc  
 1320  
 catcaggggc cactccctgg atggaagata gtgctcgggc ctcacgacg tc  
 1372

&lt;210&gt; 4152

&lt;211&gt; 97

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4152

Met Pro Cys Thr Ala Ser Trp Pro Gln Gly Leu Leu Arg Trp Trp Glu  
 1 5 10 15  
 Gly Cys Pro Ala Val Arg Lys Ala Ser Ala Gly Ala Ala Ala Val

```

                20                25                30
Arg  Glu  Gly  Glu  Thr  Pro  Ala  Glu  Asp  Ala  Lys  Leu  Asp  Arg  Pro  Gly
           35                40                45
Ser  Glu  Pro  Ala  Ser  Val  Ala  Pro  Asn  Gln  Asn  Leu  Leu  Cys  Ala  Pro
           50                55                60
Arg  Pro  Pro  Ser  Thr  Phe  Met  Ser  Val  Leu  Leu  Leu  Arg  Gly  Gln  Val
65                70                75                80
Leu  Pro  Ser  Leu  Thr  Ala  Leu  Ala  Arg  Pro  Ala  Arg  Phe  Pro  Ser  Asn
           85                90                95
Pro

```

<210> 4153  
 <211> 395  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4153
tgatcagacc tgagtgaaca gaaggaaaga gcattttacc gatggtatca actgcttggg
60
aaatcctccg attggcaaga aaggctttga tttcctcttt tatcacactg ctgtccctcc
120
tcattaattc ttccacttta tcatttacat ctaggtcctc ttctgaggct tcaaaactgt
180
atgacctctg acccatgctg tttgcatgga agcgagttgg tgacatcttt ccattggatg
240
tagataatcg ctcattattc tccctcccat tttgattggt agtgcaaggc tgtggggaag
300
tatcataact gttgctaggt gacggggaca ttcccgaatg ctgcgtctgt gtggaagctg
360
tagctgtaga ggaagatgct gggacattgt tagtn
395

```

<210> 4154  
 <211> 110  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4154
Met Ser Pro Ser Pro Ser Asn Ser Tyr Asp Thr Ser Pro Gln Pro Cys
1                5                10                15
Thr Thr Asn Gln Asn Gly Arg Glu Asn Asn Glu Arg Leu Ser Thr Ser
           20                25                30
Asn Gly Lys Met Ser Pro Thr Arg Phe His Ala Asn Ser Met Gly Gln
           35                40                45
Arg Ser Tyr Ser Phe Glu Ala Ser Glu Glu Asp Leu Asp Val Asn Asp
           50                55                60
Lys Val Glu Glu Leu Met Arg Arg Asp Ser Ser Val Ile Lys Glu Glu
65                70                75                80
Ile Lys Ala Phe Leu Ala Asn Arg Arg Ile Ser Gln Ala Val Asp Thr
           85                90                95
Ile Gly Lys Met Leu Phe Pro Ser Val His Ser Gly Leu Ile
           100                105                110

```

<210> 4155  
<211> 1191  
<212> DNA  
<213> Homo sapiens

<400> 4155  
aggcccgagc cgcagggaaa gcggcgcggg ccgggcgggg cgcggcgccc agagctcagg  
60  
gggagacaaa ggggaccggt tcctctctag gcgccaagat gtggatacag gttcgacca  
120  
ttgatggctc caagacgtgc accattgagg acgtgtctcg caaagccacg attgaggagc  
180  
tgcgcgagcg ggtgtgggcg ctgttcgacg tgcggcccgga atgccagcgc ctcttctacc  
240  
ggggcaagca gttggaaaat ggatatacct tatttgatta tgatgttgga ctgaatgata  
300  
taattcagct gctagttcgc ccagaccctg atcatcttcc tggcacatct acacagattg  
360  
aggctaaacc ctgttctaata agtccaccta aagtaaagaa agctccgagg gtaggacctt  
420  
ccaatcagcc atctacatca gctcgtgccc gtcttattga tcctggcttt ggaatatata  
480  
agatacccag aaagcggtag tctagaaatg aatgtcaagg atcttagacc acgagctaga  
540  
accatthttga aatggaatga actaaatgtt ggtgatgtgg taatgggttaa ttataatgta  
600  
gaaagtctctg gacaaagagg attctggttt gatgcagaaa ttaccacatt gaagacaatc  
660  
tcaaggacca aaaaagaact tcgtgtgaaa attttcctgg ggggttctga aggaacatta  
720  
aatgactgca agataatatc tgtagatgaa atcttcaaga ttgagagacc tggagcccat  
780  
cccctttcat ttgcagatgg aaagttttta aggcgaaatg accctgaatg tgacctgtgt  
840  
ggtggagacc cagaaaagaa atgtcattct tgcctctgtc gtgtatgtgg tgggaaacat  
900  
gaacccaaca tgcagcttct gtgtgatgaa tgtaatgtgg cttatcatat ttactgtctg  
960  
aatccacctt tggataaagt ccagaagag gaatactggt attgtccttc ttgtaaaact  
1020  
gattccagtg aagttgtaaa ggctgggtgaa agactcaaga tgagtaaaaa gaaagcaaag  
1080  
atgccgtcag ctagtactga aagccgaaga gactgaggca ggggagggga ggggagggaa  
1140  
tgaggcagct ctaggatcta tactgtagct aataaaatgt aaaaacacct g  
1191

<210> 4156  
<211> 233  
<212> PRT  
<213> Homo sapiens

<400> 4156  
Asp Leu Pro Ile Ser His Leu His Gln Leu Val Pro Val Leu Leu Ile



1	5	10	15
Leu Ala Leu Glu Tyr Ile Arg Tyr Pro Glu Ser Gly Thr Leu Glu Met			
20	25	30	
Asn Val Lys Asp Leu Arg Pro Arg Ala Arg Thr Ile Leu Lys Trp Asn			
35	40	45	
Glu Leu Asn Val Gly Asp Val Val Met Val Asn Tyr Asn Val Glu Ser			
50	55	60	
Pro Gly Gln Arg Gly Phe Trp Phe Asp Ala Glu Ile Thr Thr Leu Lys			
65	70	75	80
Thr Ile Ser Arg Thr Lys Lys Glu Leu Arg Val Lys Ile Phe Leu Gly			
85	90	95	
Gly Ser Glu Gly Thr Leu Asn Asp Cys Lys Ile Ile Ser Val Asp Glu			
100	105	110	
Ile Phe Lys Ile Glu Arg Pro Gly Ala His Pro Leu Ser Phe Ala Asp			
115	120	125	
Gly Lys Phe Leu Arg Arg Asn Asp Pro Glu Cys Asp Leu Cys Gly Gly			
130	135	140	
Asp Pro Glu Lys Lys Cys His Ser Cys Ser Cys Arg Val Cys Gly Gly			
145	150	155	160
Lys His Glu Pro Asn Met Gln Leu Leu Cys Asp Glu Cys Asn Val Ala			
165	170	175	
Tyr His Ile Tyr Cys Leu Asn Pro Pro Leu Asp Lys Val Pro Glu Glu			
180	185	190	
Glu Tyr Trp Tyr Cys Pro Ser Cys Lys Thr Asp Ser Ser Glu Val Val			
195	200	205	
Lys Ala Gly Glu Arg Leu Lys Met Ser Lys Lys Lys Ala Lys Met Pro			
210	215	220	
Ser Ala Ser Thr Glu Ser Arg Arg Asp			
225	230		

&lt;210&gt; 4157

&lt;211&gt; 3460

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4157

cattagtatc cgcagagatt cgaggacatg ccgttgacct tgttacagga ctggtgtcgg

60

ggggaacacc tgaacacccg gaggtgcatg ctcacccctgg ggatccccga ggactgtggc

120

gaggatgagt ttgaggagac actccaggag gcttgacaggc acctgggcag atacaggggtg

180

attggcagga tgtttaggag ggaggagaac gccacggcga ttctactgga gctggcacaa

240

gatatcgact atgctttgct cccaagggaa ataccaggaa agggggggcc ctgggaagtg

300

attgtaaaac cccgtaactc agatggggaa tttctcaaca gactgaaccg cttcttagag

360

gaggagaggc ggaccgtgtc agatatgaac cgagtcctcg ggtcggacac caattgttcg

420

gctccaagag tgactatatc accagagttc tggacctggg ccagactct gggggcagca

480

gtgcagcctc tgctagaaca aatgttgtac cgagaactaa gagggttttc tgggaacacc

540

atatccatcc caggtgcact ggcctttgat gcctggcttg agcacaccac tgagatgcta  
600  
cagatgtggc aggtgcccga gggggaaaag aggcggaggc tgatggaatg cttacggggc  
660  
cctgctctcc aggtggtcag tgggctccgg gccagcaatg cttccataac tgtggaggag  
720  
tgcttggtg ccttgagca ggtgttcgga cctgtggaga gccataaaat tgcccagggtg  
780  
aagttgtgta aagcctatca ggaggcagga gagaaagtat ctagctttgt gttacgtttg  
840  
gaacccctgc tccaaagagc tgtagaaaac aatgtggtat cacgtagaaa cgtgaatcag  
900  
actcgctga aacgagtctt aagtggggcc acccttcctg acaaactccg agataagctt  
960  
aagctgatga aacagcgaag gaagcctcct ggtttcctgg ccctggtgaa gctcctgcgt  
1020  
gaggaggagg aatgggaggc cacttttaggt ccagataggg agagtctgga ggggctggaa  
1080  
gtagcccaaa ggccacctgc caggatcact ggggttgggg cagtacctct ccctgcctct  
1140  
ggcaacagtt ttgatgagag gccttcccag ggctaccggc gccggagggg cagaggccaa  
1200  
caccgaaggg gtggtgtggc aagggtggc tctcgaggct caagaaaacg gaaacgccac  
1260  
acattctgct atagctgtgg ggaagacggc cacatcaggg tacagtgcac caacccctcc  
1320  
aacctgctct tggtaaagca gaagaaacag gctgcagttg agtcgggaaa cgggaactgg  
1380  
gcttgggaca agagccatcc caagtccaag gccaaagtagg ctcgggagaa cagggaaca  
1440  
tttctacca cagccaagg agacaaaaga gatattggga ggaggggaaa gagaagccca  
1500  
gacaaacagc agatgagttg agtggggcag agggacaggg cagccagacc aaggccaagc  
1560  
cttctcacc ttggccagct ggaagggact ttcagcaacc aagaccacct ggcaacaggc  
1620  
tcagtggggg tcaggtccag gtccccgaag aggtgctgga gaggaaagca gggagccact  
1680  
gcatccagca catgggggtgc ctgggcctca gatggggacc ccaaagaagc agaagctgaa  
1740  
gaaggtacgg ctgggggttc tgtcctgctc atccaaccac ccctaaatac ccacctgtg  
1800  
gactttgagc tgaacatgcc cactggcccc caggccacat gggacctgga ggagcctacc  
1860  
tggggcctgc ccctgccagc aggtgccagg gctggtgagg aagagctggg gggcagaggt  
1920  
aaagccctgc aggggaggcc acagggtcca tccgtcttc aggatcatct aactgcact  
1980  
aggggagccc caggaaggca gcacctgga ggccctgtgc cagtgaggac aggagacct  
2040  
aaggccccg gagcccagtg ccagccagag gttgtgcagg caaggagacc aaagattgat  
2100  
gagaagaccc ccagcagggg tactgggtac cggcaggcc agtgcctca cagttgactt  
2160

ggaccagggg ggctgtgaag ggaagtcttt gttgcaaagg aggaggagga aaagggagga  
 2220  
 cttggtaggg ttttgtttct tctgcttggt tctgtacagg gccaccagac tcttgagag  
 2280  
 atcaagcaag gagaacctgg ggctgccatg gccaaagcaa ctcaacagat gccaatgcca  
 2340  
 attccaaggc cagccacaac cctgccacct tggggaatcc agcctggagg catcccctaa  
 2400  
 gcagccagcc atggcctggg tggaggcacc tgaagacgtc tgtcccaaac tccccagcc  
 2460  
 ctgagctggg agatgacagg gggaaagagg ccctctcaag ggtgccagat gcctgggtct  
 2520  
 cccaagaggg gtccccaac tcaccgttcc cgggacaggc tgccccctgt tccaggaagc  
 2580  
 tcaccctcac ctgtgtaggc ccctgtagtg acccacgcgt ccagcagacg cccaccacc  
 2640  
 gctagccgtt gttcctgtgc aaagtagtgt gctatgcacc caccaggtg gcgcctctg  
 2700  
 ggcccaaggc acatgctgtg agcttctgtg gagcccaggc tctgtctact gctgtccgc  
 2760  
 gtcattgagca ccacctctgc ttccctgtg tagatctagg ccagtggctg cttgtttttg  
 2820  
 tggagctgtg tgtgttcttc tctgagcagc tcctccccgg agtccccag cacagtccca  
 2880  
 ggagatgaca ggaaggaagg caccaggga aggcgacgc tcaccctgtg accacgatgg  
 2940  
 tgaccgtgac tgtgggagga agaactggac ccaggacgga gtggggctgc cctgtctgag  
 3000  
 tttcccagc gaactttgtg ctttggtgtt ccaccctgt tgttactcat gactcagttt  
 3060  
 ccttgacctg gtagggtgtt ccctgctgtg tttccagtg tcctgtgact gtccgtgtgc  
 3120  
 ggccataggg cagggccctg tcccagcaga tgggcttggg agggggctcc ctaaagccag  
 3180  
 tggacactgc cagagtctac ctccctggca agaggcagac cccggggccc tcaggaagga  
 3240  
 gggagttggc agcgggggct gcagcaggag taggagcaga tgaggcgtct tgccaggaac  
 3300  
 ctcaggagga gggggcccgg gacctgtgtg ggacctgtgt cctgtggtgg ccgtttgcag  
 3360  
 tttctctctg tgttgtgatt cccttctctt caacggtttc agtacgtgtt tctcttcaat  
 3420  
 aaacttcatt cagtgttcca aaaaaaaaaa aaaaaaaaaa  
 3460

&lt;210&gt; 4158

&lt;211&gt; 463

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4158

Met Pro Leu Thr Leu Leu Gln Asp Trp Cys Arg Gly Glu His Leu Asn

1

5

10

15

Thr Arg Arg Cys Met Leu Ile Leu Gly Ile Pro Glu Asp Cys Gly Glu

20 25 30  
 Asp Glu Phe Glu Glu Thr Leu Gln Glu Ala Cys Arg His Leu Gly Arg  
 35 40 45  
 Tyr Arg Val Ile Gly Arg Met Phe Arg Arg Glu Glu Asn Ala Gln Ala  
 50 55 60  
 Ile Leu Leu Glu Leu Ala Gln Asp Ile Asp Tyr Ala Leu Leu Pro Arg  
 65 70 75 80  
 Glu Ile Pro Gly Lys Gly Gly Pro Trp Glu Val Ile Val Lys Pro Arg  
 85 90 95  
 Asn Ser Asp Gly Glu Phe Leu Asn Arg Leu Asn Arg Phe Leu Glu Glu  
 100 105 110  
 Glu Arg Arg Thr Val Ser Asp Met Asn Arg Val Leu Gly Ser Asp Thr  
 115 120 125  
 Asn Cys Ser Ala Pro Arg Val Thr Ile Ser Pro Glu Phe Trp Thr Trp  
 130 135 140  
 Ala Gln Thr Leu Gly Ala Ala Val Gln Pro Leu Leu Glu Gln Met Leu  
 145 150 155 160  
 Tyr Arg Glu Leu Arg Val Phe Ser Gly Asn Thr Ile Ser Ile Pro Gly  
 165 170 175  
 Ala Leu Ala Phe Asp Ala Trp Leu Glu His Thr Thr Glu Met Leu Gln  
 180 185 190  
 Met Trp Gln Val Pro Glu Gly Glu Lys Arg Arg Arg Leu Met Glu Cys  
 195 200 205  
 Leu Arg Gly Pro Ala Leu Gln Val Val Ser Gly Leu Arg Ala Ser Asn  
 210 215 220  
 Ala Ser Ile Thr Val Glu Glu Cys Leu Ala Ala Leu Gln Gln Val Phe  
 225 230 235 240  
 Gly Pro Val Glu Ser His Lys Ile Ala Gln Val Lys Leu Cys Lys Ala  
 245 250 255  
 Tyr Gln Glu Ala Gly Glu Lys Val Ser Ser Phe Val Leu Arg Leu Glu  
 260 265 270  
 Pro Leu Leu Gln Arg Ala Val Glu Asn Asn Val Val Ser Arg Arg Asn  
 275 280 285  
 Val Asn Gln Thr Arg Leu Lys Arg Val Leu Ser Gly Ala Thr Leu Pro  
 290 295 300  
 Asp Lys Leu Arg Asp Lys Leu Lys Leu Met Lys Gln Arg Arg Lys Pro  
 305 310 315 320  
 Pro Gly Phe Leu Ala Leu Val Lys Leu Leu Arg Glu Glu Glu Glu Trp  
 325 330 335  
 Glu Ala Thr Leu Gly Pro Asp Arg Glu Ser Leu Glu Gly Leu Glu Val  
 340 345 350  
 Ala Pro Arg Pro Pro Ala Arg Ile Thr Gly Val Gly Ala Val Pro Leu  
 355 360 365  
 Pro Ala Ser Gly Asn Ser Phe Asp Ala Arg Pro Ser Gln Gly Tyr Arg  
 370 375 380  
 Arg Arg Arg Gly Arg Gly Gln His Arg Arg Gly Gly Val Ala Arg Ala  
 385 390 395 400  
 Gly Ser Arg Gly Ser Arg Lys Arg Lys Arg His Thr Phe Cys Tyr Ser  
 405 410 415  
 Cys Gly Glu Asp Gly His Ile Arg Val Gln Cys Ile Asn Pro Ser Asn  
 420 425 430  
 Leu Leu Leu Val Lys Gln Lys Lys Gln Ala Ala Val Glu Ser Gly Asn  
 435 440 445  
 Gly Asn Trp Ala Trp Asp Lys Ser His Pro Lys Ser Lys Ala Lys

450

455

460

&lt;210&gt; 4159

&lt;211&gt; 1491

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4159

catcctagtc gtgcttgttg tgtgtaacct ggatttgttg ctgggcatag tagcaagcac  
60  
aagtacagtt ctttatgtgt actttgtaag gcagaaatat gtggccagtt ttaggggtcca  
120  
ggagcaccgt ggagaatgga gagttttctg ttgctttcag tcgttgccct taccatcct  
180  
tgcctacccc tggttattgc taaaatgggt aactgacaat aaagagatta gaagtgggtt  
240  
ataggaagcg aggtgggttc tagatgcaaa actaatacc tgtcccatgt gaaattgttt  
300  
ttgtgatttt gtggcggttg ggatgacaga tgagacttga ggaatgcaaa tgtgctaatt  
360  
tcccacttga tgtattgga agtgtggagc atgtatacat cacctgggtta atttcatttg  
420  
gcactatfff cttccgggtca gctcactgca ttgacagaa caaatactga gtctgcaaag  
480  
attcgagcaa tagaaaagtc tgtggtgcct tgggtcaacg accaggatgt ccctttctgt  
540  
ccagactgtg ggaataagtt cagcatccgg aaccgccgc accactgccg cctctgcggg  
600  
tctattatgt gcaagaagtg tatggagctc atcagccttc ccttggcaaa caagctcacc  
660  
agtgccagca aggagtcctt gagcaccac accagcccca gccagtcacc caacagtgtc  
720  
catggctccc gccgaggcag catcagcagc atgagcagtg tcagctcggg cctggatgag  
780  
aaggacgatg accggatccg ctgctgtaca cactgcaagg acacgctgct caagagagag  
840  
cagcagattg atgagaagga gcacacacct gacatcgtga agctctacga gaaattacga  
900  
ctttgcatgg agaaagttga ccagaaagct ccagaatata tcaggatggc agcatcatta  
960  
aatgctgggg agacaaccta cagtctggaa catgccagtg accttcgagt ggaagtgcag  
1020  
aaagtgtatg agctgataga cgctttaagt aagaagatct taaccttggg cttgaaccag  
1080  
gacctccac cacatccaag caatttgcgg ctgcagagaa tgatcagata ctgagctaca  
1140  
ctttttgtgc aggaaaagtt gcttgggttg atgtcactgc caaccaaaga acagtttgag  
1200  
gaactgaaaa agaaaaggaa ggaggaaatg gagaggaaga gggccgtgga gagacaagct  
1260  
gccctggagt ccagcgaag gcttgaggaa aggcagagtg gcctggcttc tcgagcggcc  
1320  
aacggggagg tggcatctct ccgcaggggc cctgccccct tgaaaaaggc tgagggtg  
1380

ctccactgt caggaggtca ggggcagagt gaggactcag acccgctcct ccagcagatc  
1440

cacaacatca catcattcat caggcaggcc aaggccgcgg ggccgcatgg g  
1491

<210> 4160

<211> 360

<212> PRT

<213> Homo sapiens

<400> 4160

Phe	His	Leu	Ala	Leu	Phe	Ser	Ser	Gly	Gln	Leu	Thr	Ala	Phe	Asp	Arg
1				5					10					15	
Thr	Asn	Thr	Glu	Ser	Ala	Lys	Ile	Arg	Ala	Ile	Glu	Lys	Ser	Val	Val
			20					25					30		
Pro	Trp	Val	Asn	Asp	Gln	Asp	Val	Pro	Phe	Cys	Pro	Asp	Cys	Gly	Asn
		35				40					45				
Lys	Phe	Ser	Ile	Arg	Asn	Arg	Arg	His	His	Cys	Arg	Leu	Cys	Gly	Ser
	50				55				60						
Ile	Met	Cys	Lys	Lys	Cys	Met	Glu	Leu	Ile	Ser	Leu	Pro	Leu	Ala	Asn
65					70				75					80	
Lys	Leu	Thr	Ser	Ala	Ser	Lys	Glu	Ser	Leu	Ser	Thr	His	Thr	Ser	Pro
			85					90					95		
Ser	Gln	Ser	Pro	Asn	Ser	Val	His	Gly	Ser	Arg	Arg	Gly	Ser	Ile	Ser
			100					105					110		
Ser	Met	Ser	Ser	Val	Ser	Ser	Val	Leu	Asp	Glu	Lys	Asp	Asp	Asp	Arg
		115				120						125			
Ile	Arg	Cys	Cys	Thr	His	Cys	Lys	Asp	Thr	Leu	Leu	Lys	Arg	Glu	Gln
	130					135				140					
Gln	Ile	Asp	Glu	Lys	Glu	His	Thr	Pro	Asp	Ile	Val	Lys	Leu	Tyr	Glu
145				150					155					160	
Lys	Leu	Arg	Leu	Cys	Met	Glu	Lys	Val	Asp	Gln	Lys	Ala	Pro	Glu	Tyr
			165					170					175		
Ile	Arg	Met	Ala	Ala	Ser	Leu	Asn	Ala	Gly	Glu	Thr	Thr	Tyr	Ser	Leu
		180						185					190		
Glu	His	Ala	Ser	Asp	Leu	Arg	Val	Glu	Val	Gln	Lys	Val	Tyr	Glu	Leu
	195					200						205			
Ile	Asp	Ala	Leu	Ser	Lys	Lys	Ile	Leu	Thr	Leu	Gly	Leu	Asn	Gln	Asp
	210				215					220					
Pro	Pro	Pro	His	Pro	Ser	Asn	Leu	Arg	Leu	Gln	Arg	Met	Ile	Arg	Tyr
225				230						235				240	
Ser	Ala	Thr	Leu	Phe	Val	Gln	Glu	Lys	Leu	Leu	Gly	Leu	Met	Ser	Leu
			245						250				255		
Pro	Thr	Lys	Glu	Gln	Phe	Glu	Glu	Leu	Lys	Lys	Lys	Arg	Lys	Glu	Glu
		260						265					270		
Met	Glu	Arg	Lys	Arg	Ala	Val	Glu	Arg	Gln	Ala	Ala	Leu	Glu	Ser	Gln
	275					280						285			
Arg	Arg	Leu	Glu	Glu	Arg	Gln	Ser	Gly	Leu	Ala	Ser	Arg	Ala	Ala	Asn
	290				295					300					
Gly	Glu	Val	Ala	Ser	Leu	Arg	Arg	Gly	Pro	Ala	Pro	Leu	Lys	Lys	Ala
305				310					315					320	
Glu	Gly	Trp	Leu	Pro	Leu	Ser	Gly	Gly	Gln	Gly	Gln	Ser	Glu	Asp	Ser
			325					330				335			
Asp	Pro	Leu	Leu	Gln	Gln	Ile	His	Asn	Ile	Thr	Ser	Phe	Ile	Arg	Gln

340 345 350  
 Ala Lys Ala Ala Gly Pro His Gly  
 355 360

<210> 4161  
 <211> 3316  
 <212> DNA  
 <213> Homo sapiens

<400> 4161  
 ctctctctcc gtctctctct ctctctctca tctgctgtgg ttatggcctg tcgctggagc  
 60  
 acaaaagagt ctccgcggtg gaggtctgcg ttgctcttgc ttttctcgc tggggtgtac  
 120  
 ggaaatggtg ctcttgcaga acattctgaa aatgtgcata tttcaggagt gtcaactgct  
 180  
 tgtggagaga ctccagagca aatacgagca ccaagtggca taatcacaag cccaggctgg  
 240  
 cttcttgaat atcctgcaaa aatcaactgt agctggttca taagggcaaa cccaggcgaa  
 300  
 atcattacta taagttttca ggattttgat attcaaggat ccagaaggat caatttggac  
 360  
 tggttgacaa tagaaacata caagaatatt gaaagttaca gagcttgtgg ttccacaatt  
 420  
 ccacctcgt atatctcttc acaagaccac atctggatta ggtttcattc ggatgacaac  
 480  
 atctctagaa agggtttcag actggcatat ttttcaggga aatctgagga accaaattgt  
 540  
 gcttgtgatc agtttcggtg tggtaatgga aagtgtatac cagaagcctg gaaatgtaat  
 600  
 aacatggatg aatgtggaga tagttccgat gaagagatct gtgccaaaga agcaaactct  
 660  
 ccaactgctg ctgcttttca accctgtgct tacaaccagt tccagtgttt atcccgtttt  
 720  
 accaaagttt acacttgctt ccccgaaatct ttaaaatgtg atgggaacat tgactgcctt  
 780  
 gacctaggag atgagataga ctgtgatgtg ccaacatgtg ggcaatggct aaaatatatt  
 840  
 tatggtactt ttaattctcc caattatcca gacttttata ctcttggaag caattgcacc  
 900  
 tggttaatag aacttgggtg tcaccgtaaa gtcattttac gcttcaactga ctttaaactt  
 960  
 gatggtactg gttatgggtg ttatgtcaaa atatatgatg gattagagga gaatccacac  
 1020  
 aagcttttgc gtgtgttgac agcttttgat tctcatgcac ctcttacagt tgtttcttct  
 1080  
 tctggacaga taaggttaca tttttgtgct gataaagtga atgctgcaag gggatttaat  
 1140  
 gctacttacc aagtagatgg gttctgtttg ccatgggaaa taccctgtgg aggtaactgg  
 1200  
 ggggtgttata ctgagcagca gcgttgtgat ggggtattggc attgccccaa tggaagggat  
 1260  
 gaaaccaatt gtaccatgtg ccagaaggaa gaatttccat gttcccgaat tgggtgtctgt  
 1320

tatcctcggt ctgatcgctg caactaccag aatcattgcc caaatggctc agatgaaaa  
1380  
aactgctttt ttgccaacc aggaaatttc cattgtaaaa acaatcgttg tgtgtttgaa  
1440  
agttgggtgt gtgattctca agatgactgt ggtgatggca gcgatgaaga aaattgcccc  
1500  
gtaatcgtag ctacaagagt catcactgct gccgtcatag ggagcctcat ctgtggcctg  
1560  
ttactcgtag tagcattggg atgtacttgt aagctttatt ctctgagaat gtttgaaaga  
1620  
agatcatttg aaacacagtt gtcaagagtg gaagcagaat tgttaagaag agaagctcct  
1680  
ccctcgtagt gacaattgat tgctcagggt ttaattccac cagttgaaga ttttcctggt  
1740  
tgttcaccta atcaggcttc tgttttggaa aatctgagge tagcggtagc atctcagctt  
1800  
ggatttactt cagtcaggct tcctatggca ggcagatcaa gcaacatttg gaaccgtatt  
1860  
tttaattttg caagatcacg tcattctggg tcattggctt tggctcagc agatggagat  
1920  
gaggttgtcc ctatgcagag taccagtaga gaacctgaga gaaatcatac tcacagaagt  
1980  
ttgttttccg tggagtctga tgatacagac acagaaaatg agagaagaga tatggcagga  
2040  
gcatctggtg gggttgcagc tcctttgcct caaaaagtcc ctcccacaac ggcagtagaa  
2100  
gcgacagtag gagcatgtgc aagttcctca actcagagta cccgaggtag tcatgcagat  
2160  
aatggaaggg atgtgacaag tgtggaaccc ccaagtgtga gtccagcacg tcaccagctt  
2220  
acaagtgcac tcagtcgtat gactcagggg ctacgctggg tacgttttac attaggacga  
2280  
tcaagttccc taagtcagaa ccagagtcct ttgagacaac ttgataatgg ggtaagtggg  
2340  
agagaagatg atgatgatgt tgaaatgcta attccaattt ctgatggatc ttcagacttt  
2400  
gatgtgaatg actgctccag acctcttctt gatcttgcct cagatcaagg acaagggtt  
2460  
agacaacat ataatgcaac aaatcctgga gtaaggccaa gtaatcgaga tggccctgt  
2520  
gagcgtgtg gtattgtcca cactgccag ataccagaca ctgcttaga agtaacactg  
2580  
aaaaacgaaa cgagtgatga tgaggctttg ttactttgtt aggtacgaat cacataaggg  
2640  
agattgtata caagttggag caatatccgt ttattatttt gtaactttac agttaaacta  
2700  
gttttagttt aaaaagaaaa aatgcagggt gatttcttat tattatatgt tagcctgcat  
2760  
ggttaaattc gacaacttgt aactctatga acttagagtt tactatttta gcagctaaaa  
2820  
atgcatcaca tattgcatat tgttcaataa tggctcttct atttgtttct gattgttttc  
2880  
atcctgatac tgtagttcac tgtagaaatg tggctgctga aactcatttg attgtcattt  
2940



ttatctatcc tatgttaaatt gggtttgtttt tacaaaaataa taccttattt taattgaaac  
 3000  
 gtttatgctt ttgccaagca catcttgtaa cttaatatag ctagatgtta aggttggttaa  
 3060  
 tgtacaaaa aaaaaaaccc ttatactcac ctgcgttttc atttgttga catttggtcta  
 3120  
 ttattggata tcattatcat atgaacttgt cagtgggaaa caaactgtct aaaaatttat  
 3180  
 ctcttacgtt taacatacaa tcatgtgaga tttaggcaga gttcgataaa ttactggcaa  
 3240  
 aaacaaaact catttataaa gattttctaa tgttgacttt aatactctaa catggtacaa  
 3300  
 accanatggt aaaatc  
 3316

<210> 4162  
 <211> 859  
 <212> PRT  
 <213> Homo sapiens

<400> 4162  
 Met Ala Cys Arg Trp Ser Thr Lys Glu Ser Pro Arg Trp Arg Ser Ala  
 1 5 10 15  
 Leu Leu Leu Leu Phe Leu Ala Gly Val Tyr Gly Asn Gly Ala Leu Ala  
 20 25 30  
 Glu His Ser Glu Asn Val His Ile Ser Gly Val Ser Thr Ala Cys Gly  
 35 40 45  
 Glu Thr Pro Glu Gln Ile Arg Ala Pro Ser Gly Ile Ile Thr Ser Pro  
 50 55 60  
 Gly Trp Pro Ser Glu Tyr Pro Ala Lys Ile Asn Cys Ser Trp Phe Ile  
 65 70 75 80  
 Arg Ala Asn Pro Gly Glu Ile Ile Thr Ile Ser Phe Gln Asp Phe Asp  
 85 90 95  
 Ile Gln Gly Ser Arg Arg Cys Asn Leu Asp Trp Leu Thr Ile Glu Thr  
 100 105 110  
 Tyr Lys Asn Ile Glu Ser Tyr Arg Ala Cys Gly Ser Thr Ile Pro Pro  
 115 120 125  
 Pro Tyr Ile Ser Ser Gln Asp His Ile Trp Ile Arg Phe His Ser Asp  
 130 135 140  
 Asp Asn Ile Ser Arg Lys Gly Phe Arg Leu Ala Tyr Phe Ser Gly Lys  
 145 150 155 160  
 Ser Glu Glu Pro Asn Cys Ala Cys Asp Gln Phe Arg Cys Gly Asn Gly  
 165 170 175  
 Lys Cys Ile Pro Glu Ala Trp Lys Cys Asn Asn Met Asp Glu Cys Gly  
 180 185 190  
 Asp Ser Ser Asp Glu Glu Ile Cys Ala Lys Glu Ala Asn Pro Pro Thr  
 195 200 205  
 Ala Ala Ala Phe Gln Pro Cys Ala Tyr Asn Gln Phe Gln Cys Leu Ser  
 210 215 220  
 Arg Phe Thr Lys Val Tyr Thr Cys Leu Pro Glu Ser Leu Lys Cys Asp  
 225 230 235 240  
 Gly Asn Ile Asp Cys Leu Asp Leu Gly Asp Glu Ile Asp Cys Asp Val  
 245 250 255  
 Pro Thr Cys Gly Gln Trp Leu Lys Tyr Phe Tyr Gly Thr Phe Asn Ser

260 265 270  
 Pro Asn Tyr Pro Asp Phe Tyr Pro Pro Gly Ser Asn Cys Thr Trp Leu  
 275 280 285  
 Ile Asp Thr Gly Asp His Arg Lys Val Ile Leu Arg Phe Thr Asp Phe  
 290 295 300  
 Lys Leu Asp Gly Thr Gly Tyr Gly Asp Tyr Val Lys Ile Tyr Asp Gly  
 305 310 315 320  
 Leu Glu Glu Asn Pro His Lys Leu Leu Arg Val Leu Thr Ala Phe Asp  
 325 330 335  
 Ser His Ala Pro Leu Thr Val Val Ser Ser Ser Gly Gln Ile Arg Val  
 340 345 350  
 His Phe Cys Ala Asp Lys Val Asn Ala Ala Arg Gly Phe Asn Ala Thr  
 355 360 365  
 Tyr Gln Val Asp Gly Phe Cys Leu Pro Trp Glu Ile Pro Cys Gly Gly  
 370 375 380  
 Asn Trp Gly Cys Tyr Thr Glu Gln Gln Arg Cys Asp Gly Tyr Trp His  
 385 390 395 400  
 Cys Pro Asn Gly Arg Asp Glu Thr Asn Cys Thr Met Cys Gln Lys Glu  
 405 410 415  
 Glu Phe Pro Cys Ser Arg Asn Gly Val Cys Tyr Pro Arg Ser Asp Arg  
 420 425 430  
 Cys Asn Tyr Gln Asn His Cys Pro Asn Gly Ser Asp Glu Lys Asn Cys  
 435 440 445  
 Phe Phe Cys Gln Pro Gly Asn Phe His Cys Lys Asn Asn Arg Cys Val  
 450 455 460  
 Phe Glu Ser Trp Val Cys Asp Ser Gln Asp Asp Cys Gly Asp Gly Ser  
 465 470 475 480  
 Asp Glu Glu Asn Cys Pro Val Ile Val Pro Thr Arg Val Ile Thr Ala  
 485 490 495  
 Ala Val Ile Gly Ser Leu Ile Cys Gly Leu Leu Leu Val Ile Ala Leu  
 500 505 510  
 Gly Cys Thr Cys Lys Leu Tyr Ser Leu Arg Met Phe Glu Arg Arg Ser  
 515 520 525  
 Phe Glu Thr Gln Leu Ser Arg Val Glu Ala Glu Leu Leu Arg Arg Glu  
 530 535 540  
 Ala Pro Pro Ser Tyr Gly Gln Leu Ile Ala Gln Gly Leu Ile Pro Pro  
 545 550 555 560  
 Val Glu Asp Phe Pro Val Cys Ser Pro Asn Gln Ala Ser Val Leu Glu  
 565 570 575  
 Asn Leu Arg Leu Ala Val Arg Ser Gln Leu Gly Phe Thr Ser Val Arg  
 580 585 590  
 Leu Pro Met Ala Gly Arg Ser Ser Asn Ile Trp Asn Arg Ile Phe Asn  
 595 600 605  
 Phe Ala Arg Ser Arg His Ser Gly Ser Leu Ala Leu Val Ser Ala Asp  
 610 615 620  
 Gly Asp Glu Val Val Pro Ser Gln Ser Thr Ser Arg Glu Pro Glu Arg  
 625 630 635 640  
 Asn His Thr His Arg Ser Leu Phe Ser Val Glu Ser Asp Asp Thr Asp  
 645 650 655  
 Thr Glu Asn Glu Arg Arg Asp Met Ala Gly Ala Ser Gly Gly Val Ala  
 660 665 670  
 Ala Pro Leu Pro Gln Lys Val Pro Pro Thr Thr Ala Val Glu Ala Thr  
 675 680 685  
 Val Gly Ala Cys Ala Ser Ser Ser Thr Gln Ser Thr Arg Gly Gly His

690		695		700
Ala Asp Asn Gly Arg Asp Val Thr Ser Val Glu Pro Pro Ser Val Ser				
705		710		715
Pro Ala Arg His Gln Leu Thr Ser Ala Leu Ser Arg Met Thr Gln Gly				
	725		730	735
Leu Arg Trp Val Arg Phe Thr Leu Gly Arg Ser Ser Ser Leu Ser Gln				
	740		745	750
Asn Gln Ser Pro Leu Arg Gln Leu Asp Asn Gly Val Ser Gly Arg Glu				
	755		760	765
Asp Asp Asp Asp Val Glu Met Leu Ile Pro Ile Ser Asp Gly Ser Ser				
	770		775	780
Asp Phe Asp Val Asn Asp Cys Ser Arg Pro Leu Leu Asp Leu Ala Ser				
	785		790	795
Asp Gln Gly Gln Gly Leu Arg Gln Pro Tyr Asn Ala Thr Asn Pro Gly				
	805		810	815
Val Arg Pro Ser Asn Arg Asp Gly Pro Cys Glu Arg Cys Gly Ile Val				
	820		825	830
His Thr Ala Gln Ile Pro Asp Thr Cys Leu Glu Val Thr Leu Lys Asn				
	835		840	845
Glu Thr Ser Asp Asp Glu Ala Leu Leu Leu Cys				
	850		855	

&lt;210&gt; 4163

&lt;211&gt; 568

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4163

```

ntctagaacc tttccttggtg gccagggcag gctcaggaca ggctgccgtc agccaggccc
60
actccagggc tcccaggtca gagtggccat ggtagcttac aatgcggcct gcaggaccca
120
gcaggcagcc ggccccctctc cctcccttt tccgcctgc gctctgaagg ctccaagtca
180
gtgttgcccc agtggctctg ggggatgaag gggatcccg tcccatctgg acaccctcaa
240
gctgatggac gcagagctct ggtgcgggca gtgggtcacc cccaggacct gctgaccgaa
300
gcctctcccc gctgcccggc aggcccttca ccgctgagat ctaccggcag aaagcctccg
360
ggccccccaa gaggaggtga tttagctgcc ccagttttgt ttaaggcctg ggccacctcc
420
ttggcttgcc ccaagtggca ggccttgccg agggcgagaa tggcgctgt tgttcagggc
480
tcgccccgg cgtgggctgc cccagtgcct tggaacctgc tgccttgagg accctggacg
540
tgccgacata tggccattga gctccaac
568

```

&lt;210&gt; 4164

&lt;211&gt; 187

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4164

```

Asn Leu Ser Leu Trp Pro Gly Gln Ala Gln Asp Arg Leu Pro Ser Ala
 1           5           10           15
Arg Pro Thr Pro Gly Leu Pro Gly Gln Ser Gly His Gly Ser Leu Gln
          20           25           30
Cys Gly Leu Gln Asp Pro Ala Gly Ser Arg Pro Leu Ser Pro Pro Phe
          35           40           45
Ser Arg Leu Arg Ser Glu Gly Ser Lys Ser Val Leu Pro Gln Trp Leu
 50           55           60
Trp Gly Met Lys Gly Ile Pro Val Pro Ser Gly His Pro Gln Ala Asp
65           70           75           80
Gly Arg Arg Ala Leu Val Arg Ala Val Gly His Pro Gln Asp Leu Leu
          85           90           95
Thr Glu Ala Ser Pro Arg Cys Pro Ala Gly Pro Ser Pro Leu Arg Ser
          100          105          110
Thr Gly Arg Lys Pro Pro Gly Pro Pro Arg Gly Gly Asp Leu Ala Ala
          115          120          125
Pro Val Leu Phe Lys Ala Trp Ala Thr Ser Leu Ala Cys Pro Lys Trp
          130          135          140
Gln Ala Leu Arg Arg Ala Arg Met Val Pro Val Val Gln Gly Ser Pro
          145          150          155          160
Pro Ala Trp Ala Ala Pro Val Pro Trp Asn Leu Leu Pro Trp Gly Pro
          165          170          175
Trp Thr Cys Arg His Met Ala Ile Glu Leu Gln
          180          185

```

&lt;210&gt; 4165

&lt;211&gt; 717

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4165

```

ngcgtgcagg aacgcttcgt ggctggctcc ctggctggtg ccacagccca aaccatcatt
60
taccctatgg aggtgctgaa gacgcggctg accttgcgcc ggacggggcca gtataagggg
120
ctgctggact gcgccaggcg taccctggag agggagggggc cccgtgcctt ctaccgcggc
180
tacctcccca acgtgctggg catcatcccc tatgcgggca tcgacctggc cgtctacgag
240
actctgaaga actggtggct tcagcagtac agccacgact cggcagaccc aggcacctc
300
gtgctcctgg cctgcggtac catatccagc acctgcggcc agatagccag ttaccgctg
360
gccctggtcc ggaccgcat gcaggcacia ggatttcac atgttgccca ggctcatctc
420
gaactcgtgg ggtcaaggaa ttgccagcc ttcagcctcc caactgctg ggattacagg
480
aagccggtgg tcatgccatg agcagcctta tggagaggac catgtggtaa ggaactcagc
540
caatagccat gtaactgagc ttggaagagg atcttgctgt cctggccaac atctcactgc
600
aattctatca gttgaattcc ctggatagtc caagctttgt ggatccctcc accagaacaa
660

```

ctggatccca gtacctgaat cctgaatctt agactcttat acttcaaaca ctgatca  
717

<210> 4166  
<211> 166  
<212> PRT  
<213> Homo sapiens

<400> 4166  
Xaa Val Gln Glu Arg Phe Val Ala Gly Ser Leu Ala Gly Ala Thr Ala  
1 5 10 15  
Gln Thr Ile Ile Tyr Pro Met Glu Val Leu Lys Thr Arg Leu Thr Leu  
20 25 30  
Arg Arg Thr Gly Gln Tyr Lys Gly Leu Leu Asp Cys Ala Arg Arg Ile  
35 40 45  
Leu Glu Arg Glu Gly Pro Arg Ala Phe Tyr Arg Gly Tyr Leu Pro Asn  
50 55 60  
Val Leu Gly Ile Ile Pro Tyr Ala Gly Ile Asp Leu Ala Val Tyr Glu  
65 70 75 80  
Thr Leu Lys Asn Trp Trp Leu Gln Gln Tyr Ser His Asp Ser Ala Asp  
85 90 95  
Pro Gly Ile Leu Val Leu Leu Ala Cys Gly Thr Ile Ser Ser Thr Cys  
100 105 110  
Gly Gln Ile Ala Ser Tyr Pro Leu Ala Leu Val Arg Thr Arg Met Gln  
115 120 125  
Ala Gln Gly Phe His His Val Ala Gln Ala His Leu Glu Leu Val Gly  
130 135 140  
Ser Arg Asn Ser Pro Ala Phe Ser Leu Pro Thr Cys Trp Asp Tyr Arg  
145 150 155 160  
Lys Pro Val Val Met Pro  
165

<210> 4167  
<211> 897  
<212> DNA  
<213> Homo sapiens

<400> 4167  
ngccggcacg ccgcccagca tgggtccggga aatcaggcat ctctgggtgg gcaatttacc  
60  
cgagaacgtg cgggaagaga agatcatcga gcattttcaaa cggctgggtgt gcaatggcgt  
120  
gatctcagcc caccgcaact tccgcctcct gggatcaagc aatcctcctg cttcagcctc  
180  
ctgagtagct tggactacag atatggccgc gtggaaagtg tcaaaattct tcccaagagg  
240  
ggatctgaag gaggagtggc tgcctttgtg gattttgtgg acatcaaaag tgcacagaaa  
300  
gctcacaact cggtcaaaa aatgggtgac agagacctac gcacggatta taatgaacca  
360  
ggcaccatcc cgagtgtgc tcggggattg gatgatacag tttccatagc atctcgtagt  
420  
agagagggtt ctgggttcag aggaggtggt ggagggcctg cttatggtcc cccaccgtca  
480

cttcatgcac gagaaggacg ttatgagcgg agacttgatg gggcttcaga taacagggag  
 540  
 cgtgcttatg aacatagtgc ctatggacac catgaacggg ggacgggagg atttgatcgg  
 600  
 acaagacatt acgatcagga ttactataga gatcctcgag agcggacttt acaacatggg  
 660  
 ctctattacg cttctcggag tcgaagtcca aatcgctttg atgctcatga cccccgatat  
 720  
 gaacctaggg ctgcgagaca gtttacactg cccagtgtgg tacacagggg tatctacagg  
 780  
 gatgatatta cccgggaggt acgaggcaga aggccagagc ggaattacca gcacagcagg  
 840  
 agtcgggtcac cacattcatc ccagtctaga aatcagtcct ctcagagact ggctagc  
 897

<210> 4168  
 <211> 299  
 <212> PRT  
 <213> Homo sapiens

<400> 4168  
 Xaa Arg His Ala Ala Gln His Gly Pro Gly Asn Gln Ala Ser Leu Gly  
 1 5 10 15  
 Gly Gln Phe Thr Arg Glu Arg Ala Gly Arg Glu Asp His Arg Ala Phe  
 20 25 30  
 Gln Thr Ala Gly Val Gln Trp Arg Asp Leu Ser Pro Pro Gln Leu Pro  
 35 40 45  
 Pro Pro Gly Ile Lys Gln Ser Ser Cys Phe Ser Leu Leu Ser Ser Leu  
 50 55 60  
 Asp Tyr Arg Tyr Gly Arg Val Glu Ser Val Lys Ile Leu Pro Lys Arg  
 65 70 75 80  
 Gly Ser Glu Gly Gly Val Ala Ala Phe Val Asp Phe Val Asp Ile Lys  
 85 90 95  
 Ser Ala Gln Lys Ala His Asn Ser Val Asn Lys Met Gly Asp Arg Asp  
 100 105 110  
 Leu Arg Thr Asp Tyr Asn Glu Pro Gly Thr Ile Pro Ser Ala Ala Arg  
 115 120 125  
 Gly Leu Asp Asp Thr Val Ser Ile Ala Ser Arg Ser Arg Glu Val Ser  
 130 135 140  
 Gly Phe Arg Gly Gly Gly Gly Gly Pro Ala Tyr Gly Pro Pro Pro Ser  
 145 150 155 160  
 Leu His Ala Arg Glu Gly Arg Tyr Glu Arg Arg Leu Asp Gly Ala Ser  
 165 170 175  
 Asp Asn Arg Glu Arg Ala Tyr Glu His Ser Ala Tyr Gly His His Glu  
 180 185 190  
 Arg Gly Thr Gly Gly Phe Asp Arg Thr Arg His Tyr Asp Gln Asp Tyr  
 195 200 205  
 Tyr Arg Asp Pro Arg Glu Arg Thr Leu Gln His Gly Leu Tyr Tyr Ala  
 210 215 220  
 Ser Arg Ser Arg Ser Pro Asn Arg Phe Asp Ala His Asp Pro Arg Tyr  
 225 230 235 240  
 Glu Pro Arg Ala Arg Glu Gln Phe Thr Leu Pro Ser Val Val His Arg  
 245 250 255  
 Asp Ile Tyr Arg Asp Asp Ile Thr Arg Glu Val Arg Gly Arg Arg Pro

Glu Arg Asn Tyr Gln His Ser Arg Ser Arg Ser Pro His Ser Ser Gln  
260 265 270

Ser Arg Asn Gln Ser Pro Gln Arg Leu Ala Ser  
275 280 285

290 295

```
<210> 4169
<211> 4743
<212> DNA
<213> Homo sapiens
```

<400>	4169					
gtggttatgg	agcagctgcc	gggggtgcc	ccaggcccc	cccacccgt	tcgaccgcc	
60						
ccccgcctc	caccacccat	gcccctgcag	ctcgaggccc	acctccgcag	ccatggcctg	
120						
gagcccgcg	ccccagccc	ccgcctgcga	cccaggaga	gcctggatcc	gccaggcgcc	
180						
atgcaggaat	tgctcggggc	tctggagccg	ctgcccccg	cgctgggga	tactggcgta	
240						
ggcccaccaa	actcggaggg	caaggatccc	gcaggcgcct	accgcagccc	cagcccgcaa	
300						
ggcaccaagg	cgccgcgttt	cgtgccgctc	acctccatct	gcttcctga	ctccttgctc	
360						
caagacgagg	agcgcagctt	cttccccacc	atggaggaga	tgttcggctg	aggggcccgc	
420						
gacgactacg	gcaaggccgg	gccacctgag	gacgaggggg	acccaaggc	tggcgctggg	
480						
ccaccccccg	gccccctgc	ttatgatccc	tatgggccct	actgtcctgg	ccgggcgtcg	
540						
ggagccgggc	ccgagacacc	gggcctgggc	ctggaccca	acaaaccgcc	tgaactgccc	
600						
tccacggtca	acgccgagcc	gctgggcctg	atccagagt	gccccacca	ggcggcgcc	
660						
ccacccccgc	ctccgccacc	gccgcctccc	gcgccggcct	ccgaaccaa	gggtggcctc	
720						
acctcgccca	tcttctgctc	taccaagcca	aagaagctgc	tcaagacatc	ctccttccac	
780						
ctgctgcggc	gccgcgaccc	acccttccag	accccaaga	agctgtacgc	ccaggagtac	
840						
gagttcgagg	cggacgagga	caaggccgat	gttcccgcg	acatccgcct	caacccccgg	
900						
cgcttgctg	acctggtctc	cagctgccgc	tccgctccgg	ccctctcgcc	actgggggac	
960						
atcgacttct	gcctaccaa	cccaggaccc	gatggcccc	ggcgccgtgg	ccgcaagccc	
1020						
acgaaggcga	aacgtgatgg	gccaccccg	ccacggggga	ggccccggat	ccgccccctg	
1080						
gaggtcccga	ccactgcggg	gcccgcctcg	gcctccacgc	ccaccgatgg	cgccaagaaa	
1140						
ccccggggcc	ggggccgagg	ccggggtcga	aaggctgagg	aggcaggggg	cacccggttg	
1200						
gagccctga	agccacttaa	gatcaagctg	tctgtgcca	aggctggcga	gggtctggga	
1260						

acctcatcgg gtgatgccat atcaggcact gaccacaaca gcctggactc gagcctgact  
1320  
cgggagaaga tcgaggccaa gattaaggag gtggaggaga agcagccgga gatgaagtcg  
1380  
ggtttcatgg cctccttctt ggacttcctc aagtcaggca agcgccaccc accactctac  
1440  
caggcgggcc tgacgcctcc gctcagccct cccaagagtg tgccaccctc tgtgccagcc  
1500  
cgaggcctgc agccccagcc ccctgccacc cctgctgtgc cacatccccc accttccgga  
1560  
gcctttgggc ttgggggcgc cctggaggct gcagagagtg aggggtctggg gcttggctgc  
1620  
ccttcaccct gcaagcggt tgatgaggag ctgaagcgga acctcgagac gctgccctcc  
1680  
ttctcctcgg atgaggaaga ctctgtcgcc aagaaccgag acctgcagga gagcatctcc  
1740  
tccgccatct ctgccctcga tgaccacccc cttgctgggc caaaagacac ttccaccca  
1800  
gatgggccgc ccttggcccc cgcggtgca gttccagggc caccctctt tccggggctc  
1860  
cccagtcca acagcaatgg cactcccgag ccccgctgc tggaggagaa acccccaccc  
1920  
actccacctc ctgccccgac tcctcagcct cagcctccgc caccctctcc gccgccacag  
1980  
ccagccctgc cctcgccacc cccgctgggtg gccccacgc ccagctcacc accgccaccg  
2040  
ccgctgccgc cgccacctcc accagccatg cctcgcctc caccaccacc cccaccagcc  
2100  
gctgccccac tggctgctcc tcctgaggag cccgcgcgcc cgtctcccga agaccccgag  
2160  
ctgccggaca cccggccccct gcatctggcc aaaaagcagg agacggcggc agtgtgtggg  
2220  
gagacggacg aggaggccgg cgagagtggc ggagagggca tcttccggga acgggacgag  
2280  
ttcgtcatcc gtgctgagga catcccttcc ctcaagctgg cgttgacagc ggggcgtgaa  
2340  
ccccaccca tctggcgagt ccagaaggcc cttctgcaga aattcactcc ggagatcaag  
2400  
gacggccaga ggcagttttg tgccaccagt aattatttgg ggtattttgg ggatgcaaaa  
2460  
aatcggtacc agcgcctcta tgtaaagttc ctggaaaatg tcaataagaa ggactacgtg  
2520  
agggctctgtg ctcggaacc ctggcatcgg cccccagtgc cagtcagacg ctctgggcag  
2580  
gccaagaacc ccgtatctgc tgggggtagc tctgcacctc cccctaaggc cccagcacca  
2640  
cctcccaagc ctgagacccc tgaaaagacg acatctgaga agccccagc agcagactcc  
2700  
tgagacggcc atgcctgagc ccctgcccc cgagaagccc tccctcctgc ggcctgttga  
2760  
gaaggaaaag gagaaggaga aggtgacacg tggagagcgg ccattgcggg gtgagcgggc  
2820  
caccagcgga cggcagacac ggccagagcg gagtctcgcc acgggacaac ctgccacatc  
2880



ccggctgccc aaagcccggc ctaccaaggt gaaggctgaa ccgcccccta agaagaggaa  
2940  
gaaatggctg aaggaggcag gcggcaacgc tacagcaggc gggggcccac caggcagctc  
3000  
ctcggactcg gagtcctccc ctggagcccc cagcgaggac gagcgggcag tacctgggcg  
3060  
tctgctcaaa accagggcga tgcgggagat gtaccggagc tacgtggaga tgttggtgag  
3120  
cacagcactt gacccagaca tgatccaggc cctggaggac acgcatgacg agctgtacct  
3180  
gcccccatg cggaagatag acggcctgct gaatgagcac aagaagaaag tcctgaagcg  
3240  
gctgtcgcta agcccagccc tgcaggatgc tctgcacacg ttcccacagc tgcaagtgga  
3300  
gcagagtggg gagggctctc cggaagaggg ggctgtgcgg ctgcggcctg ctggggaacc  
3360  
ctacaaccgc aagacgctca gcaagctcaa gaggagcgtg gtcagagccc aggagttaa  
3420  
ggttgagctg gaaaagtcgg gatactatac actctaccat tcgctccacc actataaata  
3480  
ccacaccttc ctgcgctgcc gggaccagac cctggccatc gagggcgggc ccgaggacct  
3540  
gggccaggag gaggtggtcc agcagtgcac gcggaaccag ccgtggctgg aacagctctt  
3600  
tgactccttc agtgacctgc tggcccaagc acaggccac agccgctgcg ggtgaccccg  
3660  
ccccagcttg tgaggggggc gcctcctcca tgaaccgaga attgggacag aaccgtgtcc  
3720  
tcaggagcta acacctgggc tccatcgccg gggaaagggg gtcattgggtc aggggtgtgtc  
3780  
tgtgtgccc cctccagggc aggggtcaaa gtccgactcc cgcgcccgc aagaagccgc  
3840  
tttccgctgg cccgcagccg ccgcgacttc ggcacagttt ctccctctgg ctagtctccc  
3900  
aaacgggtttc cctctccctt tgccccgacc cccctccac agccacagcc cccgccccct  
3960  
ccaccttgta cataatgtat aggaaaagtc tatgtatggc tggggggggg ggggtggctt  
4020  
cagagagctg ggggaccctt tcccccaag tccccctgc agccaagat ctttgctaaa  
4080  
ggccattccc tccgcagggc atttggcgtc ggggtgggagg ggaaaacgca tcttggtaat  
4140  
tatttttaat cttatttatt gtacatacct ggggcagggg cttggggagg tggagggggg  
4200  
agaagggctc cctctctctg cccctccac tccttttcta cggcgatttg tctgtgtctg  
4260  
gccccacccc actgcccac cccattgtt gtctggatgt ggttctatct tttatcggtc  
4320  
tcctttcccc tcctccccgt tctcgcccc gccccacccc ctgctccac tacccttgt  
4380  
ctcttgcctt ttcttgggt tctgtacaac tcaacttgta tacactgtgt acacacaacc  
4440  
agccaaacga aaaccaacg gcaaacactt taccggcagg ctggagtgc tctgtcctgc  
4500

ggcgctggag tgggtggcag tggtagcagg ggcagagggt ctggaacggg actttcccag  
 4560  
 agccctgggc agtggggggc ctgaggctgg catatgttct gtgtccccgc acagcagagt  
 4620  
 atcccaccct gaaatttaat gacttcagac aacaaatatt tatcactggg gggtttcttt  
 4680  
 tgttttttag ctaaagacag ggtctcgctc tgtcacccag gttggagtgc agtggcatga  
 4740  
 tca  
 4743

<210> 4170

<211> 900

<212> PRT

<213> Homo sapiens

<400> 4170

Val	Val	Met	Glu	Gln	Leu	Pro	Gly	Val	Pro	Pro	Gly	Pro	Pro	His	Pro
1				5				10						15	
Val	Arg	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Met	Pro	Leu	Gln	Leu	Glu	
		20					25				30				
Ala	His	Leu	Arg	Ser	His	Gly	Leu	Glu	Pro	Ala	Ala	Pro	Ser	Pro	Arg
		35				40					45				
Leu	Arg	Pro	Glu	Glu	Ser	Leu	Asp	Pro	Pro	Gly	Ala	Met	Gln	Glu	Leu
	50					55				60					
Leu	Gly	Ala	Leu	Glu	Pro	Leu	Pro	Pro	Ala	Pro	Gly	Asp	Thr	Gly	Val
65				70					75					80	
Gly	Pro	Pro	Asn	Ser	Glu	Gly	Lys	Asp	Pro	Ala	Gly	Ala	Tyr	Arg	Ser
			85					90						95	
Pro	Ser	Pro	Gln	Gly	Thr	Lys	Ala	Pro	Arg	Phe	Val	Pro	Leu	Thr	Ser
		100					105						110		
Ile	Cys	Phe	Pro	Asp	Ser	Leu	Leu	Gln	Asp	Glu	Glu	Arg	Ser	Phe	Phe
	115					120						125			
Pro	Thr	Met	Glu	Glu	Met	Phe	Gly	Gly	Gly	Ala	Ala	Asp	Asp	Tyr	Gly
	130					135					140				
Lys	Ala	Gly	Pro	Pro	Glu	Asp	Glu	Gly	Asp	Pro	Lys	Ala	Gly	Ala	Gly
145				150					155					160	
Pro	Pro	Pro	Gly	Pro	Pro	Ala	Tyr	Asp	Pro	Tyr	Gly	Pro	Tyr	Cys	Pro
			165					170						175	
Gly	Arg	Ala	Ser	Gly	Ala	Gly	Pro	Glu	Thr	Pro	Gly	Leu	Gly	Leu	Asp
		180					185					190			
Pro	Asn	Lys	Pro	Pro	Glu	Leu	Pro	Ser	Thr	Val	Asn	Ala	Glu	Pro	Leu
	195					200						205			
Gly	Leu	Ile	Gln	Ser	Gly	Pro	His	Gln	Ala	Ala	Pro	Pro	Pro	Pro	Pro
	210					215					220				
Pro	Pro	Pro	Pro	Pro	Pro	Ala	Pro	Ala	Ser	Glu	Pro	Lys	Gly	Gly	Leu
225				230					235					240	
Thr	Ser	Pro	Ile	Phe	Cys	Ser	Thr	Lys	Pro	Lys	Lys	Leu	Leu	Lys	Thr
			245					250						255	
Ser	Ser	Phe	His	Leu	Leu	Arg	Arg	Arg	Asp	Pro	Pro	Phe	Gln	Thr	Pro
		260					265						270		
Lys	Lys	Leu	Tyr	Ala	Gln	Glu	Tyr	Glu	Phe	Glu	Ala	Asp	Glu	Asp	Lys
		275				280						285			
Ala	Asp	Val	Pro	Ala	Asp	Ile	Arg	Leu	Asn	Pro	Arg	Arg	Leu	Pro	Asp

290 295 300  
 Leu Val Ser Ser Cys Arg Ser Arg Pro Ala Leu Ser Pro Leu Gly Asp  
 305 310 315 320  
 Ile Asp Phe Cys Leu Pro Asn Pro Gly Pro Asp Gly Pro Arg Arg Arg  
 325 330 335  
 Gly Arg Lys Pro Thr Lys Ala Lys Arg Asp Gly Pro Pro Arg Pro Arg  
 340 345 350  
 Gly Arg Pro Arg Ile Arg Pro Leu Glu Val Pro Thr Thr Ala Gly Pro  
 355 360 365  
 Ala Ser Ala Ser Thr Pro Thr Asp Gly Ala Lys Lys Pro Arg Gly Arg  
 370 375 380  
 Gly Arg Gly Arg Gly Arg Lys Ala Glu Glu Ala Gly Gly Thr Arg Leu  
 385 390 395 400  
 Glu Pro Leu Lys Pro Leu Lys Ile Lys Leu Ser Val Pro Lys Ala Gly  
 405 410 415  
 Glu Gly Leu Gly Thr Ser Ser Gly Asp Ala Ile Ser Gly Thr Asp His  
 420 425 430  
 Asn Ser Leu Asp Ser Ser Leu Thr Arg Glu Lys Ile Glu Ala Lys Ile  
 435 440 445  
 Lys Glu Val Glu Glu Lys Gln Pro Glu Met Lys Ser Gly Phe Met Ala  
 450 455 460  
 Ser Phe Leu Asp Phe Leu Lys Ser Gly Lys Arg His Pro Pro Leu Tyr  
 465 470 475 480  
 Gln Ala Gly Leu Thr Pro Pro Leu Ser Pro Pro Lys Ser Val Pro Pro  
 485 490 495  
 Ser Val Pro Ala Arg Gly Leu Gln Pro Gln Pro Pro Ala Thr Pro Ala  
 500 505 510  
 Val Pro His Pro Pro Pro Ser Gly Ala Phe Gly Leu Gly Gly Ala Leu  
 515 520 525  
 Glu Ala Ala Glu Ser Glu Gly Leu Gly Leu Gly Cys Pro Ser Pro Cys  
 530 535 540  
 Lys Arg Leu Asp Glu Glu Leu Lys Arg Asn Leu Glu Thr Leu Pro Ser  
 545 550 555 560  
 Phe Ser Ser Asp Glu Glu Asp Ser Val Ala Lys Asn Arg Asp Leu Gln  
 565 570 575  
 Glu Ser Ile Ser Ser Ala Ile Ser Ala Leu Asp Asp Pro Pro Leu Ala  
 580 585 590  
 Gly Pro Lys Asp Thr Ser Thr Pro Asp Gly Pro Pro Leu Ala Pro Ala  
 595 600 605  
 Ala Ala Val Pro Gly Pro Pro Leu Pro Gly Leu Pro Ser Ala Asn  
 610 615 620  
 Ser Asn Gly Thr Pro Glu Pro Pro Leu Leu Glu Glu Lys Pro Pro Pro  
 625 630 635 640  
 Thr Pro Pro Pro Ala Pro Thr Pro Gln Pro Gln Pro Pro Pro Pro Pro  
 645 650 655  
 Pro Pro Pro Gln Pro Ala Leu Pro Ser Pro Pro Pro Leu Val Ala Pro  
 660 665 670  
 Thr Pro Ser Ser Pro Pro Pro Pro Pro Leu Pro Pro Pro Pro Pro Pro  
 675 680 685  
 Ala Met Pro Ser Pro Pro Pro Pro Pro Pro Ala Ala Ala Pro Leu  
 690 695 700  
 Ala Ala Pro Pro Glu Glu Pro Ala Ala Pro Ser Pro Glu Asp Pro Glu  
 705 710 715 720  
 Leu Pro Asp Thr Arg Pro Leu His Leu Ala Lys Lys Gln Glu Thr Ala

725 730 735  
 Ala Val Cys Gly Glu Thr Asp Glu Glu Ala Gly Glu Ser Gly Gly Glu  
 740 745 750  
 Gly Ile Phe Arg Glu Arg Asp Glu Phe Val Ile Arg Ala Glu Asp Ile  
 755 760 765  
 Pro Ser Leu Lys Leu Ala Leu Gln Thr Gly Arg Glu Pro Pro Pro Ile  
 770 775 780  
 Trp Arg Val Gln Lys Ala Leu Leu Gln Lys Phe Thr Pro Glu Ile Lys  
 785 790 795 800  
 Asp Gly Gln Arg Gln Phe Cys Ala Thr Ser Asn Tyr Leu Gly Tyr Phe  
 805 810 815  
 Gly Asp Ala Lys Asn Arg Tyr Gln Arg Leu Tyr Val Lys Phe Leu Glu  
 820 825 830  
 Asn Val Asn Lys Lys Asp Tyr Val Arg Val Cys Ala Arg Lys Pro Trp  
 835 840 845  
 His Arg Pro Pro Val Pro Val Arg Arg Ser Gly Gln Ala Lys Asn Pro  
 850 855 860  
 Val Ser Ala Gly Gly Ser Ser Ala Pro Pro Pro Lys Ala Pro Ala Pro  
 865 870 875 880  
 Pro Pro Lys Pro Glu Thr Pro Glu Lys Thr Thr Ser Glu Lys Pro Pro  
 885 890 895  
 Ala Ala Asp Ser  
 900

&lt;210&gt; 4171

&lt;211&gt; 889

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4171

nngcaggcct tctggtgatc gccagcgctg tcgtctctga gcgtggatcc cagaacctgg  
 60  
 acagctgtgg cggccgccgt ttcccggtec cgtccagacg ctgtctggcg agatcggacg  
 120  
 gtgagcctaa ggcggaacgc gtgaggcgct tttgagtctg gggtcggggg ccgagagcag  
 180  
 gcggaagag aggggacccg gcagaccccg agtggccgcc gctgcggggc ccaagtcctt  
 240  
 ggctgctgag tggtagacagt agcccagccc gccggccaga tatggtccag acctgtacat  
 300  
 gaataacttt ggtagtcag agtgaaatat tcaataatga gtggtgcagc tttgggactt  
 360  
 gagattgttt ttgtcttttt tctggcatta tttctgcttc atcgatatgg agactttaag  
 420  
 aaacagcata gacttgtgat tattggaaca ctgcttgctt ggtatctctg ctttcttatt  
 480  
 gtcttcatac tgctctgga tgtagtacg acaatataca accggtgcaa gcatgctgct  
 540  
 caaattcaag cctctctgag aatagcaaca ttacaggatt gtgcaactgc taaccctggt  
 600  
 ccaagccagc atccttggtt caagccatgg agttacattc ctgatggaat catgccaatt  
 660  
 ttctggaggg tagtgtattg gacgtcacia tttttaacat ggattctctt accttttatg  
 720

cagtcataatg caagatcagg aggggttttcc atcactggaa agatcaaaac tgcactaatt  
 780  
 gagaatgcaa tctactatgg cacctatttg ctgatttttg gagcattttt aatttatgta  
 840  
 gctgtaaacc cacatttaca tttagaatgg aaccagcttc agacaattg  
 889

<210> 4172  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 4172  
 Met Ser Gly Ala Ala Leu Gly Leu Glu Ile Val Phe Val Phe Phe Leu  
 1 5 10 15  
 Ala Leu Phe Leu Leu His Arg Tyr Gly Asp Phe Lys Lys Gln His Arg  
 20 25 30  
 Leu Val Ile Ile Gly Thr Leu Leu Ala Trp Tyr Leu Cys Phe Leu Ile  
 35 40 45  
 Val Phe Ile Leu Pro Leu Asp Val Ser Thr Thr Ile Tyr Asn Arg Cys  
 50 55 60  
 Lys His Ala Ala Gln Ile Gln Ala Leu Leu Arg Ile Ala Thr Leu Gln  
 65 70 75 80  
 Asp Cys Ala Thr Ala Asn Pro Val Pro Ser Gln His Pro Cys Phe Lys  
 85 90 95  
 Pro Trp Ser Tyr Ile Pro Asp Gly Ile Met Pro Ile Phe Trp Arg Val  
 100 105 110  
 Val Tyr Trp Thr Ser Gln Phe Leu Thr Trp Ile Leu Leu Pro Phe Met  
 115 120 125  
 Gln Ser Tyr Ala Arg Ser Gly Gly Phe Ser Ile Thr Gly Lys Ile Lys  
 130 135 140  
 Thr Ala Leu Ile Glu Asn Ala Ile Tyr Tyr Gly Thr Tyr Leu Leu Ile  
 145 150 155 160  
 Phe Gly Ala Phe Leu Ile Tyr Val Ala Val Asn Pro His Leu His Leu  
 165 170 175  
 Glu Trp Asn Gln Leu Gln Thr Ile  
 180

<210> 4173  
 <211> 404  
 <212> DNA  
 <213> Homo sapiens

<400> 4173  
 tgatcatctc ccaaaggctt cactccaaat atcatcacat tgcggattac agattcaaca  
 60  
 taggaatttg gggggacaca gacattcagt ccatagtagc aagcttaagg tttctggggt  
 120  
 ctagagacaa aatgttccga ttagtgtgct tcagtttcat catgagattt aatagtaata  
 180  
 actacgttat ggaatgggtt gagaatttaa tgagtaacct ggagctgggc acccctgtgt  
 240  
 caaagtgcgc tagggcactg ggttcggcta aaggccatt gctatgctgc tgcgtgcagg  
 300

catggcatct acaagatgga gactctttcc tgacacacga ccattactac atgctaaatg  
 360  
 acctcccaga ctctagctcg cctgtggctg ccacctttat gttt  
 404

<210> 4174  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 4174  
 Met Phe Arg Leu Val Cys Phe Ser Phe Ile Met Arg Phe Asn Ser Asn  
 1 5 10 15  
 Asn Tyr Val Met Glu Trp Phe Glu Asn Leu Met Ser Asn Leu Glu Leu  
 20 25 30  
 Gly Thr Pro Val Ser Lys Cys Ala Arg Ala Leu Gly Ser Ala Lys Gly  
 35 40 45  
 Pro Leu Leu Cys Cys Cys Val Gln Ala Trp His Leu Gln Asp Gly Asp  
 50 55 60  
 Ser Phe Leu Thr His Asp His Tyr Tyr Met Leu Asn Asp Leu Pro Asp  
 65 70 75 80  
 Ser Ser Ser Pro Val Ala Ala Thr Phe Met Phe  
 85 90

<210> 4175  
 <211> 2778  
 <212> DNA  
 <213> Homo sapiens

<400> 4175  
 aattccttaa ctttggaggg agtgaaacga ctaatagcag aaggtaataa agaagaacta  
 60  
 cgaaaatgtt ttggggcccg aatggagttt gggacagctg gcctccgagc tgctatggga  
 120  
 cctggaattt ctcgatgaa tgacttgacc atcatccaga ctacacaggg attttgcaga  
 180  
 tacctggaaa aacaattcag tgacttaaag cagaaaggca tcgtgatcag ttttgacgcc  
 240  
 cgagctcatc catccagtgg gggtagcagc agaaggtttg cccgacttgc tgcaaccaca  
 300  
 tttatcagtc aggggattcc tgtgtacctc ttttctgata taacgccaac cccctttgtg  
 360  
 cccttcacag tatcacattt gaaactttgt gctggaatca tgataactgc atctcacaat  
 420  
 ccaaagcagg ataatgggta taaggtctat tgggataatg gagctcagat catttctcct  
 480  
 cagcataaag ggatttctca agctattgaa gaaaatctag aaccgtggcc tcaagcttgg  
 540  
 gacgattctt taattgatag cagtccactt ctccacaatc cgagtgttc catcaataat  
 600  
 gactactttg aagaccttaa aaagtactgt ttccacagga gcgtgaacag ggagacaaag  
 660  
 gtgaagtttg tgcacacctc tgtccatggg gtgggtcata gctttgtgca gtcagctttc  
 720

aaggcttttn gaccttggtc ctccnntgag gctgttcctg aacagaaaga tccggatcct  
780  
gagtttccaa cagtgaataa cccgaatccc gaagagggga aagggtgtctt gactttgtct  
840  
tttgcttttg ctgacaaaac caaggccaga attgttttag ctaacgaccc ggatgctgat  
900  
agacttgctg tggcagaaaa gcaagacagt ggtgaatgga ggggtgttttc aggcaatgag  
960  
ttggggggccc tcctgggctg gtggcttttt acatcttgga aagagaagaa ccaggatcgc  
1020  
agtgtcttca aagacacgta catgttgtcc agcacgtct cctccaaaat ctgcgggcc  
1080  
attgccttaa aggaagggtt tcattttgag gaaacattaa ctggctttta gtggatggga  
1140  
aacagagcca aacagctaata agaccagggg aaaactgttt tatttgcatt tgaagaagct  
1200  
attggataca tgtgctgccc ttttgttctg gacaaagatg gagtcagtgc cgctgtcata  
1260  
agtgcagagt tggctagctt cctagcaacc aagaatttgt ctttgtctca gcaactaaag  
1320  
gccatttatg tggagtatgg ctaccatatt actaaagctt cctattttat ctgccatgat  
1380  
caagaaacca ttaagaaatt atttgaaaac ctcagaaact acgatggaaa aaataattat  
1440  
ccaaaagctt gtggcaaatt tgaaatttct gccattaggg accttacaac tggctatgat  
1500  
gatagccaac ctgataaaaa agctgttctt cccactagta aaagcagcca aatgatcacc  
1560  
ttcacctttg ctaatggagg cgtaggcacc atgcgcacca gtgggacaga gccc aaaatc  
1620  
aagtactatg cagagctgtg tgccccacct gggaacagtg atcctgagca gctgaagaag  
1680  
gaactgaatg aactggtcag tgctattgaa gaacattttt tccagccaca gaagtacaat  
1740  
ctgcagccaa aagcagacta aaatagtcca gccttgggta tacttgcatt tacctacaat  
1800  
taagctgggt ttaacttgtt aagcaatatt tttaagggcc aaatgattca aaacatcaca  
1860  
ggatatttatg tgttttacaa agacctacat tcctcattgt ttcattgttg acctttaagg  
1920  
tgaaaaaaga aaatggccaa acccaacaaa ctaacattcc tactaaaaag ttgagcttgg  
1980  
acatattttg aatttttgta agtgaagatt tttaaactga ctaacttaaa aaaatagatt  
2040  
gtaattgatg tgccttaatt tgcataaatc ataaatgtat gtcctctctg taattgtttt  
2100  
aatgtgtgct tgaaatatcc agaaaaccta tggagttagt aaattctggg ctgtcatatg  
2160  
taggatagcc acttttttagg tatatgtaca tttatatttc tatcaattcc ttagaaagta  
2220  
aaataaatga atagatcaaa tgttgtgttc atgtttgggg aaaatataat ttgcagaaac  
2280  
ctatgaagta gagcaaagat gctttaaaaa gataagtttt tttgaactaa atttttttta  
2340

gttctaataa tgcacatagg atattagtag atcgtacacg tgctaggaaa aaacagcttc  
 2400  
 agtgtctttg tttaatgtgt tgaaactcat ctttttaaat cttgaaaaac caattgttta  
 2460  
 cttgaaactt gaaagtagca ttttttctg ttttttggtt gtttggttcat ttgtattagc  
 2520  
 acaattttaat gtaattcctg gtttggaggc agcaagacct atgagcaaga actattttact  
 2580  
 tgaccctcgg ttttttctct tgttcttggtg tgggtctgaaa tctaaaacta gactttatta  
 2640  
 tgataggatt cctataagcc aatttctaata tacaatagaa ttattattta atccgtacct  
 2700  
 ttcattcttc tcataatcgt ggggattacc ggctcccaa aaaactccgt tgggggaccc  
 2760  
 tggggctggg gttccaac  
 2778

&lt;210&gt; 4176

&lt;211&gt; 586

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4176

Asn	Ser	Leu	Thr	Leu	Glu	Ala	Val	Lys	Arg	Leu	Ile	Ala	Glu	Gly	Asn
1				5					10					15	
Lys	Glu	Glu	Leu	Arg	Lys	Cys	Phe	Gly	Ala	Arg	Met	Glu	Phe	Gly	Thr
			20					25					30		
Ala	Gly	Leu	Arg	Ala	Ala	Met	Gly	Pro	Gly	Ile	Ser	Arg	Met	Asn	Asp
		35				40					45				
Leu	Thr	Ile	Ile	Gln	Thr	Thr	Gln	Gly	Phe	Cys	Arg	Tyr	Leu	Glu	Lys
	50				55					60					
Gln	Phe	Ser	Asp	Leu	Lys	Gln	Lys	Gly	Ile	Val	Ile	Ser	Phe	Asp	Ala
65				70					75					80	
Arg	Ala	His	Pro	Ser	Ser	Gly	Gly	Ser	Ser	Arg	Arg	Phe	Ala	Arg	Leu
			85					90					95		
Ala	Ala	Thr	Thr	Phe	Ile	Ser	Gln	Gly	Ile	Pro	Val	Tyr	Leu	Phe	Ser
			100					105					110		
Asp	Ile	Thr	Pro	Thr	Pro	Phe	Val	Pro	Phe	Thr	Val	Ser	His	Leu	Lys
	115					120						125			
Leu	Cys	Ala	Gly	Ile	Met	Ile	Thr	Ala	Ser	His	Asn	Pro	Lys	Gln	Asp
	130				135						140				
Asn	Gly	Tyr	Lys	Val	Tyr	Trp	Asp	Asn	Gly	Ala	Gln	Ile	Ile	Ser	Pro
145				150					155					160	
His	Asp	Lys	Gly	Ile	Ser	Gln	Ala	Ile	Glu	Glu	Asn	Leu	Glu	Pro	Trp
			165					170					175		
Pro	Gln	Ala	Trp	Asp	Asp	Ser	Leu	Ile	Asp	Ser	Ser	Pro	Leu	Leu	His
		180					185					190			
Asn	Pro	Ser	Ala	Ser	Ile	Asn	Asn	Asp	Tyr	Phe	Glu	Asp	Leu	Lys	Lys
	195					200					205				
Tyr	Cys	Phe	His	Arg	Ser	Val	Asn	Arg	Glu	Thr	Lys	Val	Lys	Phe	Val
	210					215					220				
His	Thr	Ser	Val	His	Gly	Val	Gly	His	Ser	Phe	Val	Gln	Ser	Ala	Phe
225				230					235					240	
Lys	Ala	Phe	Xaa	Pro	Cys	Ser	Ser	Xaa	Glu	Ala	Val	Pro	Glu	Gln	Lys



245 250 255  
 Asp Pro Asp Pro Glu Phe Pro Thr Val Lys Tyr Pro Asn Pro Glu Glu  
 260 265 270  
 Gly Lys Gly Val Leu Thr Leu Ser Phe Ala Leu Ala Asp Lys Thr Lys  
 275 280 285  
 Ala Arg Ile Val Leu Ala Asn Asp Pro Asp Ala Asp Arg Leu Ala Val  
 290 295 300  
 Ala Glu Lys Gln Asp Ser Gly Glu Trp Arg Val Phe Ser Gly Asn Glu  
 305 310 315 320  
 Leu Gly Ala Leu Leu Gly Trp Trp Leu Phe Thr Ser Trp Lys Glu Lys  
 325 330 335  
 Asn Gln Asp Arg Ser Ala Leu Lys Asp Thr Tyr Met Leu Ser Ser Thr  
 340 345 350  
 Val Ser Ser Lys Ile Leu Arg Ala Ile Ala Leu Lys Glu Gly Phe His  
 355 360 365  
 Phe Glu Glu Thr Leu Thr Gly Phe Lys Trp Met Gly Asn Arg Ala Lys  
 370 375 380  
 Gln Leu Ile Asp Gln Gly Lys Thr Val Leu Phe Ala Phe Glu Glu Ala  
 385 390 395 400  
 Ile Gly Tyr Met Cys Cys Pro Phe Val Leu Asp Lys Asp Gly Val Ser  
 405 410 415  
 Ala Ala Val Ile Ser Ala Glu Leu Ala Ser Phe Leu Ala Thr Lys Asn  
 420 425 430  
 Leu Ser Leu Ser Gln Gln Leu Lys Ala Ile Tyr Val Glu Tyr Gly Tyr  
 435 440 445  
 His Ile Thr Lys Ala Ser Tyr Phe Ile Cys His Asp Gln Glu Thr Ile  
 450 455 460  
 Lys Lys Leu Phe Glu Asn Leu Arg Asn Tyr Asp Gly Lys Asn Asn Tyr  
 465 470 475 480  
 Pro Lys Ala Cys Gly Lys Phe Glu Ile Ser Ala Ile Arg Asp Leu Thr  
 485 490 495  
 Thr Gly Tyr Asp Asp Ser Gln Pro Asp Lys Lys Ala Val Leu Pro Thr  
 500 505 510  
 Ser Lys Ser Ser Gln Met Ile Thr Phe Thr Phe Ala Asn Gly Gly Val  
 515 520 525  
 Ala Thr Met Arg Thr Ser Gly Thr Glu Pro Lys Ile Lys Tyr Tyr Ala  
 530 535 540  
 Glu Leu Cys Ala Pro Pro Gly Asn Ser Asp Pro Glu Gln Leu Lys Lys  
 545 550 555 560  
 Glu Leu Asn Glu Leu Val Ser Ala Ile Glu Glu His Phe Phe Gln Pro  
 565 570 575  
 Gln Lys Tyr Asn Leu Gln Pro Lys Ala Asp  
 580 585

&lt;210&gt; 4177

&lt;211&gt; 4763

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4177

tttttttttt tttttttttt tttttttttt tttttttttt tttgaagcaa taaaagcaca  
 60  
 gatttattga agcaaaagta tattccacag agtggggagca ggctaaagca agctgctcaa  
 120

gagccccagt tgcaaaatct ggggtttaag taccctttag gggtttccta ttggttacac  
180  
cctatgcgcc accaatcgga ggccgaagtg aaggctccca gtctccagac tcttattctc  
240  
ctagctcaaa gaaatccact gatttcctct gtagcatctt cagggttccat cttgacaact  
300  
tcctctaaat ccccagggga agagttgttt agagactcct ggatgccctg agggagcggc  
360  
tccagagctt gccttccctc ctctgttttc acaacgggtcc agcgataggc actgttctct  
420  
gacaatcctt cttggcactg tttatcgact ggtggaggcc ctgggctatg ttccactttg  
480  
gggaaaacag tagcagagag aggagatagt tcctggggct ctaatttggg ttctaggccc  
540  
tgaaaggcat tttcccatc agccacagca caagcaatgt ccacattcat gtgggcctta  
600  
tcttcagggg tggatggtat aggaagattc acagaattgc cagaaacaat taagggtgag  
660  
acagaggagg ccacaagggg ctggttcaat ggacagggga aggaagtagg gttaaccaag  
720  
agggtaggca tgggaatagt ctggggactc tggggccacag ccgcattgac aggctggatc  
780  
atgttacagc caccgccaag gctcacaatc ttcacagtgg tagcaggaac agtgaagata  
840  
acagatgcag ggtggataac aggggcaggc ttgatacagc gaaaggccct ggctcccctt  
900  
ctttttgagg gtctccgtct cacatatggc tttcgaaaca tggaagaggc aggggagggc  
960  
atcattacct tgggcacagg ggcagaagag agcaaagtct gggactcaga cagagggaag  
1020  
cttgtcctgg cctcaggggg catagcaggc agtgcctgag gagactcaaa actctcacct  
1080  
ccactgaccc ccagtggagg gacacctgga actgtctgta aaacagtggc tggctgtatt  
1140  
gggtgaggaa tccggagcac cattttgctc ggaggggctt ctgaatgagt tgattgggct  
1200  
ggtgttttcc caggggtgaa gctgggctgg agagaggggc tgggttgat aaggaggggt  
1260  
ttcaggactg atgaacgctt ctgtctccaa gccttcttgg ggaaacggtc ggcaactggc  
1320  
ttcagtttca ggactacacc cttaggcaat agcagtgggt accgagtttc actccccaac  
1380  
tctgagttgt ctttttctag gcttcgatct gagttgatct cagtggttcc agtcataatt  
1440  
cctacctctc tagcaccatc agccatgtgc cgcagttctt cctggatgga tggcagactg  
1500  
gcctttaacc agaatgggag ccggtgttct tctctctcta taggtggctt ccactgatgt  
1560  
ggctggatct cttcacagca ttttcctagg actggcagct gtttgggtctt cttataaaat  
1620  
ttaatgatgt tgtcaggagc tctgttcatg ttgaggttct tgattctcac tgtcagttgg  
1680  
cgggcagtct tgcaggttag aagggtactg ctgattagag ggttaagaaa ctcagtcctt  
1740

tcaaaatgct tcagtcctaa agctaacaaa ttgtcctcag ccttggtgaa gaggatctta  
1800  
tcctggggat tctttgcctt cagggaaacac actggaagta actctggata catgaaaacc  
1860  
ttgcttgtgg ccaggatcca agccacttgc tttggcaaac agggaaattc attggcagtc  
1920  
ttcttgacag ttttatgagg gctgcagtc atgctgacat gtgtgctgaa gtcttcaatc  
1980  
agctgcatag ctcccatcaa gttacagggg tggaaacaggg tctgaaactt ggggttgtag  
2040  
tgatggtgaa gggcgatgga gctttgagca aagggtccca gctctttaag acatatcctg  
2100  
gtgctactgg cctccggatt gagattgggg ttgcaggtgg caagaagggt gatttgtgtc  
2160  
aagagctgaa catgctgctg catctgctgc tggagtctct tcctttgtgc tgggtccaga  
2220  
atcagggctc gatgaacttc cttacactgg ggtttaacct tctctacttc cttctgctgt  
2280  
ttggctgaag gtttcttcat cttcagctgt tcaaatagtt ccttcgctat ctgatgttgt  
2340  
tcatttagta ggttggccag tagttcctca aaccgtagag cttgaggggt gttaaagtta  
2400  
gcttgaggct cagccacacg ctccctcctc tctgggcat catcttccat gttggagaat  
2460  
cccatctcat cttggaaagt ttcaaacaga tcttccatca gctcatttac ttcccttttcg  
2520  
tgtcggaggc cgaggccgaa gccgagagcg atgagagtac agggaaagtga ggaagagggg  
2580  
gtggccgcca ggctcctccg cttccctggg tccaccgag atcctccgc ttgtcaggag  
2640  
gcgccacggt ctcaggacgg gcgctttgga gccggcccca ggcagcgtgt gtcggtcgcc  
2700  
tagtctggag aactagtcct cgactcacgg tgagggaatg gaccgacacg ggtattgtac  
2760  
cgctgagggg aaggagcggg actccggacc tccaggagt caaggatgat gctgaaagga  
2820  
ataacaaggc ttatctctag gatccataag ttggaccctg ggcgtttttt acacatgggg  
2880  
accaggctc gccaaagcat tgctgctcac ctagataacc aggttccagt tgagagtccg  
2940  
agagctattt cccgcaccaa tgagaatgac ccggccaagc atggggatca gcacgagggt  
3000  
cagcactaca acatctcccc ccaggatttg gagactgtat ttccccatgg ccttctcct  
3060  
cgctttgtga tgcaggtgaa gacattcagt gaagcttgcc tgatggtaag gaaaccagcc  
3120  
ctagaacttc tgcattacct gaaaaacacc agttttgctt atccagctat acgatatctt  
3180  
ctgtatggag agaagggaac aggaaaaacc ctaagtcttt gccatgtttt tcatttctgt  
3240  
gcaaaacagg actggctgat actacatatt ccagatgctc atctttgggt gaaaaattgt  
3300  
cgggatcttc tgcagtccag ctacaacaaa cagcgctttg atcaaccttt agaggcttca  
3360

acctggctga agaatttcaa aactacaaat gagcgcttcc tgaaccagat aaaagttcaa  
3420  
gagaagtatg tctggaataa gagagaactc actgagaaaag ggagtcctct gggagaagtg  
3480  
gttgaacagg gcataacacg ggtgaggaac gccacagatg cagttggaat tgtgctgaaa  
3540  
gagctaaaga ggcaaagtcc tttgggtatg tttcacctcc tagtggccgt ggatggaatc  
3600  
aatgctctttt ggggaagaac cactctgaaa agagaagata aaagcccgat tgcccccgag  
3660  
gaattagcac ttgttcacaa cttgaggaaa atgatgaaaa atgattggca tggaggcgcc  
3720  
attgtgtcgg ctttgagcca gactgggtct ctctttaagc cccggaaaagc ctatctgccc  
3780  
caggagtgtg tgggaaagga aggatttgat gccctggatc cctttattcc catcctgggt  
3840  
tccaactata acccaaagga atttgaaagt tgtattcagt attatttgga aaacaattgg  
3900  
cttcaacatg agaaagctcc tacagaagaa gggaaaaaag agctgctgtt cctaagtaac  
3960  
gcgaaccctt cgctgctgga gcggcactgt gcctacctct aagccaagat cacagcatgt  
4020  
gaggaagaca gtggacatct gctttatgct ggaccagta agatgaggaa gtcgggcagt  
4080  
acacaggaag aggagccagg cccttgtagc tatgggattg gacaggactg cagttggctc  
4140  
tggacctgca ttaaaatggg tttcactgtg aatgcgtgac aataagatat tcccttgctc  
4200  
ctaaaacttt atatcagttt attggatgtg gtttttcaca tttaagataa ttatggctct  
4260  
tttccataaaa aataaaatat ctttctaaag tgttgtgtta gattaataat atggaaggag  
4320  
tcttttagatt ggccaaattg catttctctg atattcctct tgttgcaggt cagaagagat  
4380  
caattctaca gaaatttcca gtgggtctgt tgaggcttta tggaattcag catgtcaaaa  
4440  
ttcacagctg gctgggcaca gtggctcatg cctgtaatcc cagcactttg gaagcccaag  
4500  
gcgggcagac tgcttgagtt caggagtgtg caaccagcct gggcaacatg gtgaaaacct  
4560  
gtctctacta aaaatacaaa aattagccgg gcacgtgtgc atgcgcctgt agtccaagct  
4620  
acttgggagg ctgaggcagg agaattgctt caacttggga ggcggatgtt gcagtgagcc  
4680  
aaaattgcac cactgcactc cagcctgggc agcagagcaa gactccgtct caaaataaat  
4740  
aaataaataa ataaataaat aaa  
4763

&lt;210&gt; 4178

&lt;211&gt; 398

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4178

```

Met Met Leu Lys Gly Ile Thr Arg Leu Ile Ser Arg Ile His Lys Leu
 1           5           10           15
Asp Pro Gly Arg Phe Leu His Met Gly Thr Gln Ala Arg Gln Ser Ile
      20           25           30
Ala Ala His Leu Asp Asn Gln Val Pro Val Glu Ser Pro Arg Ala Ile
      35           40           45
Ser Arg Thr Asn Glu Asn Asp Pro Ala Lys His Gly Asp Gln His Glu
      50           55           60
Gly Gln His Tyr Asn Ile Ser Pro Gln Asp Leu Glu Thr Val Phe Pro
      65           70           75           80
His Gly Leu Pro Pro Arg Phe Val Met Gln Val Lys Thr Phe Ser Glu
      85           90           95
Ala Cys Leu Met Val Arg Lys Pro Ala Leu Glu Leu Leu His Tyr Leu
      100          105          110
Lys Asn Thr Ser Phe Ala Tyr Pro Ala Ile Arg Tyr Leu Leu Tyr Gly
      115          120          125
Glu Lys Gly Thr Gly Lys Thr Leu Ser Leu Cys His Val Phe His Phe
      130          135          140
Cys Ala Lys Gln Asp Trp Leu Ile Leu His Ile Pro Asp Ala His Leu
      145          150          155          160
Trp Val Lys Asn Cys Arg Asp Leu Leu Gln Ser Ser Tyr Asn Lys Gln
      165          170          175
Arg Phe Asp Gln Pro Leu Glu Ala Ser Thr Trp Leu Lys Asn Phe Lys
      180          185          190
Thr Thr Asn Glu Arg Phe Leu Asn Gln Ile Lys Val Gln Glu Lys Tyr
      195          200          205
Val Trp Asn Lys Arg Glu Leu Thr Glu Lys Gly Ser Pro Leu Gly Glu
      210          215          220
Val Val Glu Gln Gly Ile Thr Arg Val Arg Asn Ala Thr Asp Ala Val
      225          230          235          240
Gly Ile Val Leu Lys Glu Leu Lys Arg Gln Ser Ser Leu Gly Met Phe
      245          250          255
His Leu Leu Val Ala Val Asp Gly Ile Asn Ala Leu Trp Gly Arg Thr
      260          265          270
Thr Leu Lys Arg Glu Asp Lys Ser Pro Ile Ala Pro Glu Glu Leu Ala
      275          280          285
Leu Val His Asn Leu Arg Lys Met Met Lys Asn Asp Trp His Gly Gly
      290          295          300
Ala Ile Val Ser Ala Leu Ser Gln Thr Gly Ser Leu Phe Lys Pro Arg
      305          310          315          320
Lys Ala Tyr Leu Pro Gln Glu Leu Leu Gly Lys Glu Gly Phe Asp Ala
      325          330          335
Leu Asp Pro Phe Ile Pro Ile Leu Val Ser Asn Tyr Asn Pro Lys Glu
      340          345          350
Phe Glu Ser Cys Ile Gln Tyr Tyr Leu Glu Asn Asn Trp Leu Gln His
      355          360          365
Glu Lys Ala Pro Thr Glu Glu Gly Lys Lys Glu Leu Leu Phe Leu Ser
      370          375          380
Asn Ala Asn Pro Ser Leu Leu Glu Arg His Cys Ala Tyr Leu
      385          390          395

```

&lt;210&gt; 4179

&lt;211&gt; 2208

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4179

tttttttttt ttttttttgg gaatgttagt gcaatttaat caccataagg gtgactttta  
60  
aagatacact gatagttaaa aaaaaaagac aattaaataa tagcattttg ttttttaaat  
120  
ggcaccatt aaagactcaa cagtcaaat gagacaaatc agtccttttag acgttcacag  
180  
acaattgaaa ggcactttta aaatccactt tttaaactac cacttgagaa cacatggtag  
240  
cacagtctta aattcactct agttgatcgg gaatgatgaa tgagtgttg caccagaaaa  
300  
tcctgcttgc agaagggggc gcaggtgtcg gtccacggga cagccactgg ccaggctagc  
360  
tgccgcctca ctccgcagcc ttctgtggct aaatggcagg acggacacac aggaatgggc  
420  
tttgaccac aagctctggc atatcgggag gcaaagcact caagtactct gcagtctaga  
480  
tgacacattt catggtttgg aggacagaag taggtttcca catcacatga aaaggacagt  
540  
gtcacagtgg ggttaccag taaacagcta ccaaagccat catttcacgc ttccctgtag  
600  
ttttatgagc tcgccctctg catgtggata tggggaaagc cgggcatgaa ggggtgtgtg  
660  
aaaaagaaca gcctctgtga ctgactgcag taagctcaca agtttgtcac tgtcagactt  
720  
agcaagtcag cctgcaaagg ttgtgctgat ctcttgcca cactacctac tcaggttccc  
780  
atccatgcct cctgcctgcc cccaccccca gcccaccag tgagacttct gattggaagt  
840  
ctatagacat aagaattcaa ctctgacca tggatgagag gatgaggcaa agaaccaatg  
900  
ggttatctag taaacgatca ataactacct acccacaatg attgtcccag gccaatgtca  
960  
caagacgaca ttacttcaa gaaccaagtc atcccttgct tctgcgggcc cagtgccacg  
1020  
ggtactgtcc tgagtggttt ggaagggtgg tagccgctga tacagggaca ggcagatgtg  
1080  
cagacactta ccacctgggt ccaccgatcc caccatgc ttccacctcc cagagctctt  
1140  
gagataagac cttaagaagg atccttgggc ttgcattaaa accactttgc tgtccgtgga  
1200  
ggtctgacag gaccaatag ttgttactac aaaagtgtt ttgcaaatag ggcaagttag  
1260  
aagaaggagg taatatgaat attctttaga aaaactcaaa tccatcggct tatcaatacc  
1320  
caaagtctga ggctaccag ggcacaattt ggtccatgga atgctgagtg gaggaggcag  
1380  
ctgggtgtgag gctgcgcctg actcccagga gcatttagcc atcctttttg gcttggggag  
1440  
tgtcaaagag ccggactgcc ttctgtcaca gcagacagaa ccagtagatc tgaggagcta  
1500

cgaggaaggc attggccacg ttgcagtaga atgggatgct gaaggggtact tggagcaggc  
 1560  
 ttagtccctg ctggcgccca taggaccagt acatgaaggg gaagagaagg atccggcagg  
 1620  
 aaaggaaggt ggccagcgtg aggattccat tcaccttgta cagaaggggtg tgctgctgct  
 1680  
 ttagctgaat cagaaccctg cccagcgaca caaacggagt gctcagttct gccgtgaaga  
 1740  
 tgcagccgac aaagaagtcc ccaaggtctc cccggagcct ctgtgcgact ggcacaagga  
 1800  
 caaagagaat gaccgcatga tgtgtgatca tgaggcgggt tcgacttagg aagtttcgaa  
 1860  
 gagtgaggga gggcgcacgg ttctgggtctc tggttcggca ccattcacag aggtacatgg  
 1920  
 cgtacgagtc atagatcatg tatggaatca gaaaccacac atattcccgg gcaagccagt  
 1980  
 gcctgccggt gatcacgtcg tcgcaggagc gaatgatgac gatccccgag ccggtggcca  
 2040  
 gcacggcgtg caccgaggaa accagcctgg tgctgatcat cacgcagtcg gtgcgggtcc  
 2100  
 atccgggctg ggagcggcgc agcgcacagg tgcagagcgc gaagagcccc gggaagaaga  
 2160  
 gcgcgcccccc ggccagcgtc agcagcatcg gggctgctggg tccggccg  
 2208

<210> 4180

<211> 257

<212> PRT

<213> Homo sapiens

<400> 4180

Met	Leu	Leu	Thr	Leu	Ala	Gly	Gly	Ala	Leu	Phe	Phe	Pro	Gly	Leu	Phe
1				5				10					15		
Ala	Leu	Cys	Thr	Trp	Ala	Leu	Arg	Arg	Ser	Gln	Pro	Gly	Trp	Ser	Arg
			20				25					30			
Thr	Asp	Cys	Val	Met	Ile	Ser	Thr	Arg	Leu	Val	Ser	Ser	Val	His	Ala
		35				40					45				
Val	Leu	Ala	Thr	Gly	Ser	Gly	Ile	Val	Ile	Ile	Arg	Ser	Cys	Asp	Asp
	50				55					60					
Val	Ile	Thr	Gly	Arg	His	Trp	Leu	Ala	Arg	Glu	Tyr	Val	Trp	Phe	Leu
65				70					75					80	
Ile	Pro	Tyr	Met	Ile	Tyr	Asp	Ser	Tyr	Ala	Met	Tyr	Leu	Cys	Glu	Trp
			85					90					95		
Cys	Arg	Thr	Arg	Asp	Gln	Asn	Arg	Ala	Pro	Ser	Leu	Thr	Leu	Arg	Asn
			100					105					110		
Phe	Leu	Ser	Arg	Asn	Arg	Leu	Met	Ile	Thr	His	His	Ala	Val	Ile	Leu
		115				120						125			
Phe	Val	Leu	Val	Pro	Val	Ala	Gln	Arg	Leu	Arg	Gly	Asp	Leu	Gly	Asp
	130					135					140				
Phe	Phe	Val	Gly	Cys	Ile	Phe	Thr	Ala	Glu	Leu	Ser	Thr	Pro	Phe	Val
145				150					155					160	
Ser	Leu	Gly	Arg	Val	Leu	Ile	Gln	Leu	Lys	Gln	Gln	His	Thr	Leu	Leu
			165				170					175			
Tyr	Lys	Val	Asn	Gly	Ile	Leu	Thr	Leu	Ala	Thr	Phe	Leu	Ser	Cys	Arg

```

<400> 4182
His Pro Ala Gly Ile Glu Phe Ser Leu Cys Leu Leu Phe Ala Lys Leu
 1           5           10           15
Val Ser Tyr Thr Phe Leu Tyr Trp Leu Pro Leu Tyr Ile Ala Asn Val

```



```

<400> 4183
tttttttttt ttcaaaggct tatctttatc ttgaacttct tttgagaagc gtcacctttc
60
aatagctgat tctctctcta ttcgctcaat ttcagccaat gcatccaatt ccacttcac
120
atatataggt ccctgttggtg atatctgttg ttgattctgt accacagaag tctgggggtg
180
ttttgtagca actgaagtgt tctgttgtaa aacaggcact tgatttgctg gaaggaatgc
240
tgtttgttct tgctgcgaca aacattgagc agcattaagt gggcggttta cgtcctgtgg
300
agtaatgggt gtttttgaag tctgtccttg atactgcaca ttaaaaggaa tatcattttc
360
tgaaacattg ctattttcca taccagatag catatcctct tgctgggtcca tatccgaaga
420
ccttacacga gaaagtctta atgtaagttt agtagagtcc ttggatggag aactaattat
480
atcatacatt gccgctttct cactctgtct tttttcatcc ttgcctaatt tcattttctt
540
ctgcttcttt tgttttcttt ctggagaatc tagcaagata tctggtggaa catctcgagg
600
tgatgaacaa ggtagagact gagattgtag gattaaagggt ggtcttgagc ctttaggagt
660
tccttcactt ccagcagggg agcatactgg ctgtggagat ctcaagggaa aagatgcagc
720
attcctcatt gttgaagaat ctccatcgtc actacttagc ctgtgcacca tgtgtaggta
780

```

gtcctcactt gaaccatgtc taggattatc agcatgatga ttagctgaat tgccagacaa  
840  
cggaccagaa actttattat catgtatgtt tctcaaacca cctgcaacaa tgggacttga  
900  
taccgatgct tgttgcacat gtggatgtgt tgtgtaactt gaaggatggg aatatggcat  
960  
gtatcctgca gggctttgtg gggcgtatgg actaggcact gggctatattt gctgtggcat  
1020  
aaatctgttc ccagagcttg tctgtggtgg cacaaaccgg ctggaggggc tatgtgagat  
1080  
agtggtttgt tgataattgg aagatgcagg actactgtgc atggaattc  
1129

<210> 4184  
<211> 374  
<212> PRT  
<213> Homo sapiens

<400> 4184

Met	His	Ser	Ser	Pro	Ala	Ser	Ser	Asn	Tyr	Gln	Gln	Thr	Thr	Ile	Ser
1				5				10						15	
His	Ser	Pro	Ser	Ser	Arg	Phe	Val	Pro	Pro	Gln	Thr	Ser	Ser	Gly	Asn
			20					25					30		
Arg	Phe	Met	Pro	Gln	Gln	Asn	Ser	Pro	Val	Pro	Ser	Pro	Tyr	Ala	Pro
		35				40					45				
Gln	Ser	Pro	Ala	Gly	Tyr	Met	Pro	Tyr	Ser	His	Pro	Ser	Ser	Tyr	Thr
	50				55					60					
Thr	His	Pro	Gln	Met	Gln	Gln	Ala	Ser	Val	Ser	Ser	Pro	Ile	Val	Ala
65				70					75						80
Gly	Gly	Leu	Arg	Asn	Ile	His	Asp	Asn	Lys	Val	Ser	Gly	Pro	Leu	Ser
			85					90					95		
Gly	Asn	Ser	Ala	Asn	His	His	Ala	Asp	Asn	Pro	Arg	His	Gly	Ser	Ser
	100						105					110			
Glu	Asp	Tyr	Leu	His	Met	Val	His	Arg	Leu	Ser	Ser	Asp	Asp	Gly	Asp
	115					120						125			
Ser	Ser	Thr	Met	Arg	Asn	Ala	Ala	Ser	Phe	Pro	Leu	Arg	Ser	Pro	Gln
	130				135					140					
Pro	Val	Cys	Ser	Pro	Ala	Gly	Ser	Glu	Gly	Thr	Pro	Lys	Gly	Ser	Arg
145				150					155						160
Pro	Pro	Leu	Ile	Leu	Gln	Ser	Gln	Ser	Leu	Pro	Cys	Ser	Ser	Pro	Arg
			165					170						175	
Asp	Val	Pro	Pro	Asp	Ile	Leu	Leu	Asp	Ser	Pro	Glu	Arg	Lys	Gln	Lys
	180							185					190		
Lys	Gln	Lys	Lys	Met	Lys	Leu	Gly	Lys	Asp	Glu	Lys	Glu	Gln	Ser	Glu
	195					200						205			
Lys	Ala	Ala	Met	Tyr	Asp	Ile	Ile	Ser	Ser	Pro	Ser	Lys	Asp	Ser	Thr
	210				215					220					
Lys	Leu	Thr	Leu	Arg	Leu	Ser	Arg	Val	Arg	Ser	Ser	Asp	Met	Asp	Gln
225				230					235						240
Gln	Glu	Asp	Met	Leu	Ser	Gly	Met	Glu	Asn	Ser	Asn	Val	Ser	Glu	Asn
			245					250						255	
Asp	Ile	Pro	Phe	Asn	Val	Gln	Tyr	Gln	Gly	Gln	Thr	Ser	Lys	Thr	Pro
	260					265							270		
Ile	Thr	Pro	Gln	Asp	Val	Asn	Arg	Pro	Leu	Asn	Ala	Ala	Gln	Cys	Leu

```
<210> 4185
<211> 1481
<212> DNA
<213> Homo sapiens
```

3375

catatcctgc ggaccgaggg ggccttcggg ctgtacaggg ggctggcccc caacttcatg  
 1080  
 aaggtcatcc cagctgtgag catcagctac gtggtctacg agaacctgaa gatcacccctg  
 1140  
 ggcgtgcagt cgcggtgacg gggggagggc cgcccggcag tggactcgct gatcctgggc  
 1200  
 cgcagcctgg ggtgtgcagc catctcattc tgtgaatgtg ccaacactaa gctgtctcga  
 1260  
 gccaaagctgt gaaaacccta gacgcacccg cagggagggg ggggagagct ggcaggccca  
 1320  
 gggccttgctc tgctgacccc agcagaccct cctgttggtt ccagcgaaga ccacaggcat  
 1380  
 tccttagggg ccagggtcag caggctccgg gctcacatgt gtaaggacag gacattttct  
 1440  
 gcagtgcctg ccaatagtga gcttgagacc tggaggccgg c  
 1481

&lt;210&gt; 4186

&lt;211&gt; 385

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4186

Xaa Val Phe Lys Ser Leu Asp Lys Lys Asn Asp Gly Arg Ile Asp Ala  
 1 5 10 15  
 Gln Glu Ile Met Gln Ser Leu Arg Asp Leu Gly Val Lys Ile Ser Glu  
 20 25 30  
 Gln Gln Ala Glu Lys Ile Leu Lys Ser Met Asp Lys Asn Gly Thr Met  
 35 40 45  
 Thr Ile Asp Trp Asn Glu Trp Arg Asp Tyr His Leu Leu His Pro Val  
 50 55 60  
 Glu Asn Ile Pro Glu Ile Ile Leu Tyr Trp Lys His Ser Thr Ile Phe  
 65 70 75 80  
 Asp Val Gly Glu Asn Leu Thr Val Pro Asp Glu Phe Thr Val Glu Glu  
 85 90 95  
 Arg Gln Thr Gly Met Trp Trp Arg His Leu Val Ala Gly Gly Gly Ala  
 100 105 110  
 Gly Ala Val Ser Arg Thr Cys Thr Ala Pro Leu Asp Arg Leu Lys Val  
 115 120 125  
 Leu Met Gln Val His Ala Ser Arg Ser Asn Asn Met Gly Ile Val Gly  
 130 135 140  
 Gly Phe Thr Gln Met Ile Arg Glu Gly Gly Ala Arg Ser Leu Trp Arg  
 145 150 155 160  
 Gly Asn Gly Ile Asn Val Leu Lys Ile Ala Pro Glu Ser Ala Ile Lys  
 165 170 175  
 Phe Met Ala Tyr Glu Gln Ile Lys Arg Leu Val Gly Ser Asp Gln Glu  
 180 185 190  
 Thr Leu Arg Ile His Glu Arg Leu Val Ala Gly Ser Leu Ala Gly Ala  
 195 200 205  
 Ile Ala Gln Ser Ser Ile Tyr Pro Met Glu Val Leu Lys Thr Arg Met  
 210 215 220  
 Ala Leu Arg Lys Thr Gly Gln Tyr Ser Gly Met Leu Asp Cys Ala Arg  
 225 230 235 240  
 Arg Ile Leu Ala Arg Glu Gly Val Ala Ala Phe Tyr Lys Gly Tyr Val

245 250 255  
 Pro Asn Met Leu Gly Ile Ile Pro Tyr Ala Gly Ile Asp Leu Ala Val  
 260 265 270  
 Tyr Glu Thr Leu Lys Asn Ala Trp Leu Gln His Tyr Ala Val Asn Ser  
 275 280 285  
 Ala Asp Pro Gly Val Phe Val Leu Leu Ala Cys Gly Thr Met Ser Ser  
 290 295 300  
 Thr Cys Gly Gln Leu Ala Ser Tyr Pro Leu Ala Leu Val Arg Thr Arg  
 305 310 315 320  
 Met Gln Ala Gln Ala Ser Ile Glu Gly Ala Pro Glu Val Thr Met Ser  
 325 330 335  
 Ser Leu Phe Lys His Ile Leu Arg Thr Glu Gly Ala Phe Gly Leu Tyr  
 340 345 350  
 Arg Gly Leu Ala Pro Asn Phe Met Lys Val Ile Pro Ala Val Ser Ile  
 355 360 365  
 Ser Tyr Val Val Tyr Glu Asn Leu Lys Ile Thr Leu Gly Val Gln Ser  
 370 375 380  
 Arg  
 385

&lt;210&gt; 4187

&lt;211&gt; 1087

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4187

ntggccattg accgagcctg cccagaaagc gcttctctcc ttggtcaccc tcgagtctcg  
 60  
 gctgattctt ttcctgacag ttcccccttat gagggttaca actatggctc ctttgagaat  
 120  
 gtttctggat ctaccgatgg tctggttgac agcgctggca ctggggacct ctcttacggt  
 180  
 taccagggcc gtccttttga acctgtaggt actcgggccc gagtggactc catgagctct  
 240  
 gtggaggagg atgactacga cacattgacc gacatcgatt ccgacaagaa tgtcattcgc  
 300  
 accaagcaat acctctatgt ggctgacctg gcacggaagg acaagcgtgt tctgcggaaa  
 360  
 aagtaccaga tctacttctg gaacattgcc accattgctg tcttctatgc ccttctctgtg  
 420  
 gtgcagctgg tgatcaccta cccagagggn gnggatgta cnaggggatc nagggacatc  
 480  
 tgctentena acttctctctg cgccccacca ctgggcaatc tcagcgcctt caacaacatc  
 540  
 ctgagcaacc tggggtacat cctgctgggg ctgcttttcc tgctcatcat cctgcaacgg  
 600  
 gagatcaacc acaaccgggc cctgctgcgc aatgacctct gtgccctgga atgtgggatc  
 660  
 ccaaacact ttgggctttt ctacgccatg ggcacagccc tgatgatgga ggggctgctc  
 720  
 agtgcttgct atcatgtgtg ccccaactat accaatttcc agtttggtga gtggggcgctc  
 780  
 cttcttttct ggctcaacct acagcagggg cctgcctgag tccttcacta tccccagtc  
 840

acccacaggg atcgctaaga caccctgta ggaaactcca aggctggcgt gcctgggtgt  
 900  
 gcacacatcc tagcctatgg aacatgggca cctagatgct gcttcattca tctgtcaagc  
 960  
 tattcctatg taaaggcatg tgccgcagtg aagaaaacag tataattaag aaggggtccc  
 1020  
 tggccgggtg cagtggctca cgcctgtaat cccagcactt tgggaggcag aggcgggtgg  
 1080  
 atcatga  
 1087

<210> 4188

<211> 272

<212> PRT

<213> Homo sapiens

<400> 4188

Xaa Ala Ile Asp Arg Ala Cys Pro Glu Ser Ala Ser Leu Leu Gly His  
 1 5 10 15  
 Pro Arg Val Leu Ala Asp Ser Phe Pro Asp Ser Ser Pro Tyr Glu Gly  
 20 25 30  
 Tyr Asn Tyr Gly Ser Phe Glu Asn Val Ser Gly Ser Thr Asp Gly Leu  
 35 40 45  
 Val Asp Ser Ala Gly Thr Gly Asp Leu Ser Tyr Gly Tyr Gln Gly Arg  
 50 55 60  
 Ser Phe Glu Pro Val Gly Thr Arg Pro Arg Val Asp Ser Met Ser Ser  
 65 70 75 80  
 Val Glu Glu Asp Asp Tyr Asp Thr Leu Thr Asp Ile Asp Ser Asp Lys  
 85 90 95  
 Asn Val Ile Arg Thr Lys Gln Tyr Leu Tyr Val Ala Asp Leu Ala Arg  
 100 105 110  
 Lys Asp Lys Arg Val Leu Arg Lys Lys Tyr Gln Ile Tyr Phe Trp Asn  
 115 120 125  
 Ile Ala Thr Ile Ala Val Phe Tyr Ala Leu Pro Val Val Gln Leu Val  
 130 135 140  
 Ile Thr Tyr Pro Glu Xaa Gly Gly Cys Thr Arg Gly Ser Arg Asp Ile  
 145 150 155 160  
 Cys Ser Ser Asn Phe Leu Cys Ala His Pro Leu Gly Asn Leu Ser Ala  
 165 170 175  
 Phe Asn Asn Ile Leu Ser Asn Leu Gly Tyr Ile Leu Leu Gly Leu Leu  
 180 185 190  
 Phe Leu Leu Ile Ile Leu Gln Arg Glu Ile Asn His Asn Arg Ala Leu  
 195 200 205  
 Leu Arg Asn Asp Leu Cys Ala Leu Glu Cys Gly Ile Pro Lys His Phe  
 210 215 220  
 Gly Leu Phe Tyr Ala Met Gly Thr Ala Leu Met Met Glu Gly Leu Leu  
 225 230 235 240  
 Ser Ala Cys Tyr His Val Cys Pro Asn Tyr Thr Asn Phe Gln Phe Gly  
 245 250 255  
 Glu Trp Gly Val Leu Leu Phe Trp Leu Asn Leu Gln Gln Gly Pro Ala  
 260 265 270

<210> 4189

<211> 1570

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4189

```

agatctattc gatcttttgc taatgatgat cgccatgtta tgggtgaaaca ttcaacaatc
60
tatccatctc cggaggaact tgaagctggt cagaatatgg tatctactgt tgaatgtgct
120
cttaaacatg tctcagattg gttggatgaa acaataaag gcacaaaaac agaggggtgag
180
acagaagtga agaaagatga ggccggagaa aactattcca aggatcaagg tggtcggaca
240
ttgtgtggtg taatgaggat tggcctggtt gcaaaaggct tgctgattaa agatgatatg
300
gacttgagc tggttttaat gtgcaaagac aaaccacag agaccctgtt aaatacagtc
360
aaagataatc ttctattca gattcagaaa ctacagaaag agaaatatca agtggaaaca
420
tgtgtaaatg aggcattctat tataattcgg aatacaaaag agcccacgct aactttgaag
480
gtgatactta cctcacctct aattagggac gaattggaga agaaggatgg agaaaatggt
540
tcgatgaaag atcctccgga cttattggac aggcagaaat gcctgaacgc cttggcgctc
600
cttcgacatg ccaaattggtt tcaggcaagg gcaaatggat taaaatcatg tgtaattgtc
660
ctccgcatte tgcgtgattt gtgcaacaga gtccccacat gggcaccatt gaaaggatgg
720
ccactagaac ttatatgtga aaagtctata ggtacttgta atagaccttt gggcgctggg
780
gaggccttga gacgagtaat ggagtgtttg gcatctggaa tactacttcc tgggggtcct
840
ggtcttcatg atccttgtga gcgagacca acagatgctc tgagctatat gaccatccag
900
caaaaagaag atattacca cagtgcacag catgcactca gactatcagc ctttggtcag
960
atttacaaag tgctggagat ggacccccctt ccatctagta agccttttca gaagtattcc
1020
tggtcagtta ctgataaaga aggtgctggg tcttcagctc taaagaggcc atttgaagat
1080
ggattagggg atgataaaga cccaacaag aagatgaaac gaaacttaag gaaaattctg
1140
gatagtaaag caatagacct tatgaatgca ctaatgaggc taaatcagat caggcctggg
1200
cttcagtata agctcctatc tcagtctggc cccgttcatg cccagtcctt cacaatgtct
1260
gtagatgtgg atggcacaac atatgaagcc tcaggaccat ccaagaaaac agcaaaactt
1320
cacgtagcgg tgaaggtatt gcaggcaatg ggatatccaa caggctttga tgcagatatt
1380
gaatgtatga gttccgatga aaaaagaaga ggtctcaagt atgaactcat ctgagagact
1440
ggtggaagcc atgacaagcg ctttgtaatg gaggtagaag tagatggaca gaaattcaga
1500

```

ggcgcagggtc caaataagaa agtggcaaag gcgagtgcag ctttactcgc tnnatggagaa  
 1560  
 actgttttct  
 1570

<210> 4190

<211> 523

<212> PRT

<213> Homo sapiens

<400> 4190

Arg Ser Ile Arg Ser Phe Ala Asn Asp Asp Arg His Val Met Val Lys  
 1 5 10 15  
 His Ser Thr Ile Tyr Pro Ser Pro Glu Leu Glu Ala Val Gln Asn  
 20 25 30  
 Met Val Ser Thr Val Glu Cys Ala Leu Lys His Val Ser Asp Trp Leu  
 35 40 45  
 Asp Glu Thr Asn Lys Gly Thr Lys Thr Glu Gly Glu Thr Glu Val Lys  
 50 55 60  
 Lys Asp Glu Ala Gly Glu Asn Tyr Ser Lys Asp Gln Gly Gly Arg Thr  
 65 70 75 80  
 Leu Cys Gly Val Met Arg Ile Gly Leu Val Ala Lys Gly Leu Leu Ile  
 85 90 95  
 Lys Asp Asp Met Asp Leu Glu Leu Val Leu Met Cys Lys Asp Lys Pro  
 100 105 110  
 Thr Glu Thr Leu Leu Asn Thr Val Lys Asp Asn Leu Pro Ile Gln Ile  
 115 120 125  
 Gln Lys Leu Thr Glu Glu Lys Tyr Gln Val Glu Gln Cys Val Asn Glu  
 130 135 140  
 Ala Ser Ile Ile Ile Arg Asn Thr Lys Glu Pro Thr Leu Thr Leu Lys  
 145 150 155 160  
 Val Ile Leu Thr Ser Pro Leu Ile Arg Asp Glu Leu Glu Lys Lys Asp  
 165 170 175  
 Gly Glu Asn Val Ser Met Lys Asp Pro Pro Asp Leu Leu Asp Arg Gln  
 180 185 190  
 Lys Cys Leu Asn Ala Leu Ala Ser Leu Arg His Ala Lys Trp Phe Gln  
 195 200 205  
 Ala Arg Ala Asn Gly Leu Lys Ser Cys Val Ile Val Leu Arg Ile Leu  
 210 215 220  
 Arg Asp Leu Cys Asn Arg Val Pro Thr Trp Ala Pro Leu Lys Gly Trp  
 225 230 235 240  
 Pro Leu Glu Leu Ile Cys Glu Lys Ser Ile Gly Thr Cys Asn Arg Pro  
 245 250 255  
 Leu Gly Ala Gly Glu Ala Leu Arg Arg Val Met Glu Cys Leu Ala Ser  
 260 265 270  
 Gly Ile Leu Leu Pro Gly Gly Pro Gly Leu His Asp Pro Cys Glu Arg  
 275 280 285  
 Asp Pro Thr Asp Ala Leu Ser Tyr Met Thr Ile Gln Gln Lys Glu Asp  
 290 295 300  
 Ile Thr His Ser Ala Gln His Ala Leu Arg Leu Ser Ala Phe Gly Gln  
 305 310 315 320  
 Ile Tyr Lys Val Leu Glu Met Asp Pro Leu Pro Ser Ser Lys Pro Phe  
 325 330 335  
 Gln Lys Tyr Ser Trp Ser Val Thr Asp Lys Glu Gly Ala Gly Ser Ser



```

<400> 4191
nngccggcgga cagtcgggggt tgcgagcggc ccggggccgg ggcgccagg gccgctgcag
60
gacgagaccc tgggtgtggc gtccgtgccc tcgcagtgga gggccgtcca gggcatccgc
120
ggggagacga aaagtgtcca gacggccagc attgccactg ccagtgcatt cggccaggcc
180
aggaatcatg tggacgcca ggtgcagacg gagggccccg tgctgtcag cgtgcagccc
240
ccgtcccagt acgacatacc caggctcgca gcctttcttc ggagagtgga ggccatggtc
300
atccgagagc tgaacaagaa ttggcagagc cacgcgtttg atggcttcga ggtgaactgg
360
accgagcagc agcagatggg gtcttgtctg tataccctgg gctaccgcc agcccaagcg
420
cagggtctgc atgtgaccag catctcctgg aactccactg gctctgtggg ggctgtgcc
480
tacggccggc tggaccatgg ggactggagc acgcttaagt ccttcgtgtg tgcttgaac
540
ctggaccggc gagacctgcg tcccagcaa ccgtcggccg tgggtggagg cccagcgct
600
gtcctgtgtc tggccttcca cccacgcag ccctcccacg tcgcaggagg gctgtacagt
660
ggtgaggtgt tgggtgtggga cctgagccgt cttgaggacc cgctgctgtg gcgcacaggg
720

```

ctgacggatg acacccacac agaccctgtg tcccagggtgg tgtggctgcc cgagcctggg  
 780  
 cacagccacc gcttccaggt gctgagtgtg gccactgacg ggaagggtgct actctggcag  
 840  
 ggcatcgggg taggccagct gcagctcaca gagggcttcg ccctgggtcat gcagcagctg  
 900  
 ccacggagca ccaagctcaa gaagcatccc cgcggggaga ccgagggtggg cgccacggca  
 960  
 gtggccttct ccagctttga ccctaggctg ttcattctgg gcacggaagg cggcttcccc  
 1020  
 ctcaagtgtt ccctggcagc tggagaggca gccctcacgc ggatgcccag ctccgtgccc  
 1080  
 ctgcgggccc cagcacagtt taccttctcc cccacggcg gtcccatcta ctctgtgagc  
 1140  
 tggtccccct tccacaggaa tctcttctg agcgtggga ctgacgggca tgtccacctg  
 1200  
 tactccatgc tgcaggcccc tcccttgact tcgctgcagc tctccctcaa gtatctgttt  
 1260  
 gctgtgcgct ggtccccagt gcggcccttg gtttttgag ctgcctctgg gaaagggtgac  
 1320  
 gtgcagctgt ttgatctcca gaaaagctcc cagaaacca cagttttgat caagcaaacc  
 1380  
 caggatgaaa gccctgtcta ctgtctggag ttcaacagcc agcagactca gctcttggt  
 1440  
 gcgggcatg cccagggcac agtgaagggtg tggcagctga gcacagagtt cacggaacaa  
 1500  
 gggccccggg aagctgagga cctggactgc ctggcagcag aggtggcggc ctgaggggtc  
 1560  
 ccgggaggcg ggtgcaagcc ttcgctgtgc cgagccttgt gtttctgacg caagccaaat  
 1620  
 gaagaaaagc aaagctttaa aaaaaaaaaa aaaaaaaaaa a  
 1661

&lt;210&gt; 4192

&lt;211&gt; 517

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4192

Xaa	Pro	Ala	Thr	Val	Gly	Val	Ala	Ser	Gly	Pro	Gly	Pro	Gly	Arg	Pro
1				5					10					15	
Gly	Pro	Leu	Gln	Asp	Glu	Thr	Leu	Gly	Val	Ala	Ser	Val	Pro	Ser	Gln
		20						25					30		
Trp	Arg	Ala	Val	Gln	Gly	Ile	Arg	Gly	Glu	Thr	Lys	Ser	Cys	Gln	Thr
	35						40					45			
Ala	Ser	Ile	Ala	Thr	Ala	Ser	Ala	Ser	Ala	Gln	Ala	Arg	Asn	His	Val
	50					55					60				
Asp	Ala	Gln	Val	Gln	Thr	Glu	Ala	Pro	Val	Pro	Val	Ser	Val	Gln	Pro
65					70					75				80	
Pro	Ser	Gln	Tyr	Asp	Ile	Pro	Arg	Leu	Ala	Ala	Phe	Leu	Arg	Arg	Val
			85						90					95	
Glu	Ala	Met	Val	Ile	Arg	Glu	Leu	Asn	Lys	Asn	Trp	Gln	Ser	His	Ala
		100						105						110	
Phe	Asp	Gly	Phe	Glu	Val	Asn	Trp	Thr	Glu	Gln	Gln	Gln	Met	Val	Ser

		115					120					125				
Cys	Leu	Tyr	Thr	Leu	Gly	Tyr	Pro	Pro	Ala	Gln	Ala	Gln	Gly	Leu	His	
	130					135					140					
Val	Thr	Ser	Ile	Ser	Trp	Asn	Ser	Thr	Gly	Ser	Val	Val	Ala	Cys	Ala	
145					150					155					160	
Tyr	Gly	Arg	Leu	Asp	His	Gly	Asp	Trp	Ser	Thr	Leu	Lys	Ser	Phe	Val	
				165					170					175		
Cys	Ala	Trp	Asn	Leu	Asp	Arg	Arg	Asp	Leu	Arg	Pro	Gln	Gln	Pro	Ser	
			180					185					190			
Ala	Val	Val	Glu	Val	Pro	Ser	Ala	Val	Leu	Cys	Leu	Ala	Phe	His	Pro	
		195					200					205				
Thr	Gln	Pro	Ser	His	Val	Ala	Gly	Gly	Leu	Tyr	Ser	Gly	Glu	Val	Leu	
	210					215					220					
Val	Trp	Asp	Leu	Ser	Arg	Leu	Glu	Asp	Pro	Leu	Leu	Trp	Arg	Thr	Gly	
225					230					235					240	
Leu	Thr	Asp	Asp	Thr	His	Thr	Asp	Pro	Val	Ser	Gln	Val	Val	Trp	Leu	
			245					250						255		
Pro	Glu	Pro	Gly	His	Ser	His	Arg	Phe	Gln	Val	Leu	Ser	Val	Ala	Thr	
			260					265					270			
Asp	Gly	Lys	Val	Leu	Leu	Trp	Gln	Gly	Ile	Gly	Val	Gly	Gln	Leu	Gln	
		275					280					285				
Leu	Thr	Glu	Gly	Phe	Ala	Leu	Val	Met	Gln	Gln	Leu	Pro	Arg	Ser	Thr	
	290					295					300					
Lys	Leu	Lys	Lys	His	Pro	Arg	Gly	Glu	Thr	Glu	Val	Gly	Ala	Thr	Ala	
305					310					315					320	
Val	Ala	Phe	Ser	Ser	Phe	Asp	Pro	Arg	Leu	Phe	Ile	Leu	Gly	Thr	Glu	
				325					330					335		
Gly	Gly	Phe	Pro	Leu	Lys	Cys	Ser	Leu	Ala	Ala	Gly	Glu	Ala	Ala	Leu	
			340					345					350			
Thr	Arg	Met	Pro	Ser	Ser	Val	Pro	Leu	Arg	Ala	Pro	Ala	Gln	Phe	Thr	
		355					360					365				
Phe	Ser	Pro	His	Gly	Gly	Pro	Ile	Tyr	Ser	Val	Ser	Cys	Ser	Pro	Phe	
	370					375					380					
His	Arg	Asn	Leu	Phe	Leu	Ser	Ala	Gly	Thr	Asp	Gly	His	Val	His	Leu	
385					390					395					400	
Tyr	Ser	Met	Leu	Gln	Ala	Pro	Pro	Leu	Thr	Ser	Leu	Gln	Leu	Ser	Leu	
				405					410					415		
Lys	Tyr	Leu	Phe	Ala	Val	Arg	Trp	Ser	Pro	Val	Arg	Pro	Leu	Val	Phe	
			420					425					430			
Ala	Ala	Ala	Ser	Gly	Lys	Gly	Asp	Val	Gln	Leu	Phe	Asp	Leu	Gln	Lys	
		435					440									

<210> 4193

<211> 6439

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4193

gaattccggc gtcgcgacg catcccagtc tgggcgggac gctcggccgc ggcgaggcgg  
60  
gcaagcctgg cagggcagag ggagccccgg ctccgaggtt gctcttcgcc cccgaggatc  
120  
agtcttggcc ccaaagcgcg acgcacaaat ccacataacc tgaggaccat ggatgctgat  
180  
gaggttcaag acatgtccca agtttcaggg aaggaaagcc cccctgtaag cgatactcca  
240  
gatgagggcg atgagcccat gccgatcccc gaggacctct ccaccacctc gggaggacag  
300  
caaagctcca agagtgcag agtcgtggcc agtaatgtta aagtagagac tcagagtgat  
360  
gaagagaatg ggcgtgcctg tgaaatgaat ggggaagaat gtgcggagga ttacgaatg  
420  
cttgatgcct cgggagagaa aatgaatggc tcccacaggg accaaggcag ctcggtttg  
480  
tcgggagttg gaggcattcg acttcctaac ggaaaactaa agtgtgatat ctgtgggac  
540  
atttgcacg ggcccaatgt gctcatggtt caaaaagaa gccacactgg agaacggccc  
600  
ttccagtgca atcagtgcgg ggcctcattc acccagaagg gcaacctgct ccggcacatc  
660  
aagctgcatt ccggggagaa gcccttcaaa tgccacctct gcaactacgc ctgccgccg  
720  
agggacgccc tcaactggca cctgaggacg cactccgttg gtaaacctca caaatgtgga  
780  
tattgtggcc gaagctataa acagcgaagc tctttagagg aacataaaga gcgctgccac  
840  
aactacttgg aaagcatggg ccttcggggc acactgtacc cagtcattaa agaagaaact  
900  
aatcacagt aaatggcaga agacctgtgc aagataggat cagagagatc tctcgtgctg  
960  
gacagactag caagtaacgt cgccaaacgt aagagctcta tgccctcagaa atttcttggg  
1020  
gacaagggcc tgtccgacac gccctacgac agcagcgcca gctacgagaa ggagaacgaa  
1080  
atgatgaagt cccacgtgat ggaccaagcc atcaacaacg ccatcaacta cctggggggc  
1140  
gagtccttgc gcccgtggt gcagacgccc cggggcggtt ccgaggtggt cccggtcatc  
1200  
agcccgatgt accagctgca caagccgctc gcggagggca ccccgcgctc caaccactcg  
1260  
gcccaggaca gcgcctgga gaacctgctg ctgctctcca aggccaagtt ggtgccctcg  
1320  
gagcgcgagg cgtccccgag caacagctgt caagactcca cggacaccga gagcaacaac  
1380  
gaggagcagc gcagcggctc catctacctg accaaccaca tcgccccgca cgcgcgcaac  
1440  
ggcttgtcgc tcaaggagga gcaccgcgc tacgacctgc tgcgcgccgc ctccgagaa  
1500

tcgcaggacg cgctccgcgt ggtcagcacc agcggggagc agatgaaggt gtacaagtgc  
1560  
gaacactgcc ggggtgctctt cctggatcac gtcatgtaca ccatccacat gggctgccac  
1620  
ggcttccgtg atccttttga gtgcaacatg tgcggctacc acagccagga ccggtacgag  
1680  
ttctcgtcgc acataacgcg aggggagcac cgcttcacaca tgagctaaag ccctcccgcg  
1740  
ccccacccc agaccccgag ccaccccgagg aaaagcacia ggactgccgc cttctcgtc  
1800  
ccgccagcag catagactgg actggaccag acaatgttgt gtttggtattt gtaactgttt  
1860  
tttggtttttt gtttgagttg gttgattggg gtttgatttg cttttgaaaa gatttttatt  
1920  
tttagaggca gggctgcatt gggagcatcc agaactgcta ccttcctaga tgtttcccca  
1980  
gaccgctggc tgagattccc tcacctgtcg cttcctagaa tccccttctc caaacgatta  
2040  
gtctaaattt tcagagagaa atagataaaa cagccacag cctgggaagg agcgtgctct  
2100  
accctgtgct aagcacgggg ttccgcgcacc aggtgtcttt ttccagtccc cagaagcaga  
2160  
gagcacagcc cctgctgtgt gggctctgcag gtgagcagac aggacagggtg tgccgccacc  
2220  
caagtgccaa gacacagcag ggccaacaac ctgtgcccag gccagcttcg agctacatgc  
2280  
atctagggcg gagaggctgc acttgtgaga gaaaatactt atttcaagtc atattctgcg  
2340  
gtaggaaaat gattgggttg gggaaagtcg gtgtctgtca gactgccctg ggtggaggga  
2400  
gacgccgggt tagagccttt gggatcgctc tggattcact ggcttggggg aggctgttca  
2460  
gatggcctga gcctcccgag gcttgetgce ccgtaggagg agactgtctt cccgtgggca  
2520  
tatctgggga gccctgttcc ccgctttttc actcccatac ctttaaatggc cccaaaatc  
2580  
tgtcactaca atttaaacac cagtcccga aattggatct tctttctttt tgaatctctc  
2640  
aaacggcaac attcctcaga aaccaaagct ttatttcaaa tctcttcctt ccctggctgg  
2700  
ttccatctag taccagagge ctcttttctt gaagaaatcc aatcctagcc ctcattttaa  
2760  
ttatgtacat ctgctttagt ccacaagcct gaatttctca gtgttggtaa gtttctttac  
2820  
ctaccctcac tatatattat tctcgtttta aaaccataa aggagtgatt tagaacagtc  
2880  
attaattttc caactcaatg aaaatatgtg aagcccagca tctctgttgc taacacacag  
2940  
agctcacctg tttgaaacca agcttttcaa catgttgaag ctctttactg taaaggcaag  
3000  
ccagcatgtg tgccacaca tacataggat ggctggctct gcacctgtag gatattggaa  
3060  
tgcacagggc aattgaggga ctgagccaga ccttcggaga gtaatgccac cagatccct  
3120

aggaaagagg aggcaaatgg cactgcaggt gagaaccccg cccatccgtg ctatgacatg  
3180  
gaggcactga agcccgagga aggtgtgtgg agattctaata cccaacaagc aagggtctcc  
3240  
ttcaagatta atgctatcaa tcattaaggt cattactctc aaccacctag gcaatgaaga  
3300  
atataccatt tcaaatatatt acagtacttg tcttcaccaa cactgtccca aggtgaaatg  
3360  
aagcaacaga gaggaaattg tacataagta cctcagcatt taatccaaac aggggttctt  
3420  
agtctcagca ctatgacatt ttgggctgac tacttatttg ttaggcggga gctctcctgt  
3480  
gcattgtagg ataattagca gtatccctgg tggctacca atagacgcca gtagcacccc  
3540  
gaattgacaa cccaaactct ccagacatca ccaactgtcc cctgcgagga gaaatcactc  
3600  
ctgggggaga accactgacc caaatgaatt ctaaaccaat caaatgtctg ggaagccctc  
3660  
caagaaaaaa aatagaaaag cacttgaaga atattcccaa tattcccggt cagcagtatc  
3720  
aaggctgact tgtgttcatg tggagtcatt ataaattcta taaatcaatt attccccctc  
3780  
ggtcttcaaa aatatatttc ctcataaaca tttgagtttt gttgaaaaga tggagtttac  
3840  
aaagatacca ttcttgagtc atggatttct ctgctcacag aagggtgtgg catttgga  
3900  
cgggaataaa caaaattgct gcaccaatgc actgagtga ggaagagaga cagaggatca  
3960  
agggctttag acagcactcc ttcaatatgc aatcacagag aaagatgcgc cttatccaag  
4020  
ttaatatctc taagggtgaga gccttcttag agtcagtttg ttgcaaattt cacctactct  
4080  
gttcttttcc atccatcccc ctgagtcagt tgggtgaagg gagttatttt ttcaagtga  
4140  
attcaaaca agctcaaacc agaactgtaa atagtgattg caggaattct tttctaaact  
4200  
gctttgccct ttctctcac tgccttttat agccaatata aatgtctctt tgcacacctt  
4260  
ttgttgggt tttatattgt aacaccattt ttctttgaaa ctattgtatt taaagtaagg  
4320  
tttcatatta tgcagcaag taattaactt atgtttaaaa ggtggccata tcatgtacca  
4380  
aaagttgctg aagtttctct tctagctgg aaagtaggag tttgcatgac ttcacacttt  
4440  
ttttgcgtag tttcttctgt tgtatgatgg cgtgagtgtg tgtcttgggt accgctgtgt  
4500  
actactgtgt gcttagattc catgcactct cgttgtgttt gaagtaaata ttggagaccg  
4560  
gagggtaca ggttgccctg ttgattacag ctagtaatcg ctgtgtcttg ttccgcccc  
4620  
tccctgacac ccagcttcc caggatgtgg aaagcctgga tctcagctcc ttgccccata  
4680  
tcccttctgt aatttgtacc taaagagtgt gattatccta attcaagagt cactaaaact  
4740

catcacatta tcattgcata tcagcaaagg gtaaagtcct agcaccaatt gcttcacata  
4800  
ccagcatggt ccatttccaa tttagaatta gccacataat aaaatccttag aatcttcctt  
4860  
gagaaagagc tgcctgagat gtagttttgt tatatgggtc cccaccgacc atttttgtgc  
4920  
ttttttcttg ttttgttttg ttttgactgc actgtgagtt ttgtagtgtc ctcttcttgc  
4980  
caaaacaaac gcgagatgaa ctggacttat gtagacaaat cgtgatgcc a gtgtatcctt  
5040  
cctttcttca gttccagcaa taatgaatgg tcaacttttt taaaatctag atcattggag  
5100  
accggagggt aacagggttg cctgttgatt acagctagta atcgtctgtgt cttgttccgc  
5160  
ccctccctg acacccagc ttcccaggat gtggaaagcc tggatctcag ctcttgccc  
5220  
catatccctt ctgtaatttg tacctaaaga gtgtgattat cctaattgat ctctctcatt  
5280  
catttcaatg tatttttact ttaagatgaa ccaaaattat tagacttatt taagatgtac  
5340  
aggcatcaga aaaaagaagc acataatgct tttggtgcga tggcactcac tgtgaacatg  
5400  
tgtaaccaca tattaatatg caatattggt tccaatactt tctaatacag tttttataa  
5460  
tggtgtgtgt ggtgattggt caggtcgaat ctgttgatc cagtacagct ttaggtcttc  
5520  
agctgccctt ctggcgagta catgcacagg attgtaaag agaaatgcag tcatatttcc  
5580  
agtctgcctc tatgatgatg ttaaattatt gctgtttagc tgtgaacaag ggatgtacca  
5640  
ctggaggaat agagtatcct tttgtacaca ttttgaaag cttcttctgt agtgatagaa  
5700  
caaataaatg caacgaatac tctgtctgcc ctatcccgtg aagtccacac tggcgtaaga  
5760  
gaaggcccag cagagcagga atctgcctag actttctccc aatgagatcc caatatgaga  
5820  
gggagaagag atgggcctca ggacagctgc aataccactt gggaacacat gtggtgtctt  
5880  
gatgtggcca gcgcacgagt tcagcacaac gtacctccca tctacaacag tgctggacgt  
5940  
gggaattcta agtcccagtc ttgaggggtg gtggagatgg agggcaacaa gagatacatt  
6000  
tccagttctc cactgcagca tgcttcagtc attctgtgag tggccgggccc cagggccctc  
6060  
acaatttcac taccttgtct ttacatagt cataagaatt atcctcaaca tagccttttg  
6120  
acgctgtaaa tcttgagtat tcattttacc ttttctgac tcctggaaac agctgcctgc  
6180  
ctgcattgca cttctcttcc cgaggagtgg ggtaaattta aaagtcaagt tatagtttgg  
6240  
atgttagtat agaattttga aattgggaat taaaaatcag gactggggac tgggagacca  
6300  
aaaatttctg atcccatttc tgatggatgt gtcacacctt ttctgtcaaa ataaaatgtc  
6360

ttggaggtta tgactccttg gtgaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
6420

aaaaaaaaaa aaaaaaaaaa

6439

<210> 4194

<211> 519

<212> PRT

<213> Homo sapiens

<400> 4194

Met Asp Ala Asp Glu Gly Gln Asp Met Ser Gln Val Ser Gly Lys Glu  
1 5 10 15  
Ser Pro Pro Val Ser Asp Thr Pro Asp Glu Gly Asp Glu Pro Met Pro  
20 25 30  
Ile Pro Glu Asp Leu Ser Thr Thr Ser Gly Gly Gln Gln Ser Ser Lys  
35 40 45  
Ser Asp Arg Val Val Ala Ser Asn Val Lys Val Glu Thr Gln Ser Asp  
50 55 60  
Glu Glu Asn Gly Arg Ala Cys Glu Met Asn Gly Glu Glu Cys Ala Glu  
65 70 75 80  
Asp Leu Arg Met Leu Asp Ala Ser Gly Glu Lys Met Asn Gly Ser His  
85 90 95  
Arg Asp Gln Gly Ser Ser Ala Leu Ser Gly Val Gly Gly Ile Arg Leu  
100 105 110  
Pro Asn Gly Lys Leu Lys Cys Asp Ile Cys Gly Ile Ile Cys Ile Gly  
115 120 125  
Pro Asn Val Leu Met Val His Lys Arg Ser His Thr Gly Glu Arg Pro  
130 135 140  
Phe Gln Cys Asn Gln Cys Gly Ala Ser Phe Thr Gln Lys Gly Asn Leu  
145 150 155 160  
Leu Arg His Ile Lys Leu His Ser Gly Glu Lys Pro Phe Lys Cys His  
165 170 175  
Leu Cys Asn Tyr Ala Cys Arg Arg Arg Asp Ala Leu Thr Gly His Leu  
180 185 190  
Arg Thr His Ser Val Gly Lys Pro His Lys Cys Gly Tyr Cys Gly Arg  
195 200 205  
Ser Tyr Lys Gln Arg Ser Ser Leu Glu Glu His Lys Glu Arg Cys His  
210 215 220  
Asn Tyr Leu Glu Ser Met Gly Leu Pro Gly Thr Leu Tyr Pro Val Ile  
225 230 235 240  
Lys Glu Glu Thr Asn His Ser Glu Met Ala Glu Asp Leu Cys Lys Ile  
245 250 255  
Gly Ser Glu Arg Ser Leu Val Leu Asp Arg Leu Ala Ser Asn Val Ala  
260 265 270  
Lys Arg Lys Ser Ser Met Pro Gln Lys Phe Leu Gly Asp Lys Gly Leu  
275 280 285  
Ser Asp Thr Pro Tyr Asp Ser Ser Ala Ser Tyr Glu Lys Glu Asn Glu  
290 295 300  
Met Met Lys Ser His Val Met Asp Gln Ala Ile Asn Asn Ala Ile Asn  
305 310 315 320  
Tyr Leu Gly Ala Glu Ser Leu Arg Pro Leu Val Gln Thr Pro Pro Gly  
325 330 335  
Gly Ser Glu Val Val Pro Val Ile Ser Pro Met Tyr Gln Leu His Lys



340					345					350					
Pro	Leu	Ala	Glu	Gly	Thr	Pro	Arg	Ser	Asn	His	Ser	Ala	Gln	Asp	Ser
355					360					365					
Ala	Val	Glu	Asn	Leu	Leu	Leu	Leu	Ser	Lys	Ala	Lys	Leu	Val	Pro	Ser
370					375					380					
Glu	Arg	Glu	Ala	Ser	Pro	Ser	Asn	Ser	Cys	Gln	Asp	Ser	Thr	Asp	Thr
385					390					395					
Glu	Ser	Asn	Asn	Glu	Glu	Gln	Arg	Ser	Gly	Leu	Ile	Tyr	Leu	Thr	Asn
405					410					415					
His	Ile	Ala	Pro	His	Ala	Arg	Asn	Gly	Leu	Ser	Leu	Lys	Glu	Glu	His
420					425					430					
Arg	Ala	Tyr	Asp	Leu	Leu	Arg	Ala	Ala	Ser	Glu	Asn	Ser	Gln	Asp	Ala
435					440					445					
Leu	Arg	Val	Val	Ser	Thr	Ser	Gly	Glu	Gln	Met	Lys	Val	Tyr	Lys	Cys
450					455					460					
Glu	His	Cys	Arg	Val	Leu	Phe	Leu	Asp	His	Val	Met	Tyr	Thr	Ile	His
465					470					475					
Met	Gly	Cys	His	Gly	Phe	Arg	Asp	Pro	Phe	Glu	Cys	Asn	Met	Cys	Gly
485					490					495					
Tyr	His	Ser	Gln	Asp	Arg	Tyr	Glu	Phe	Ser	Ser	His	Ile	Thr	Arg	Gly
500					505					510					
Glu	His	Arg	Phe	His	Met	Ser									
515															

```
<210> 4195
<211> 1200
<212> DNA
<213> Homo sapiens
```

```

<400> 4195
nngggaagtc ttcttgcagc cgtgtggacg aatttggccc aaccttttca taggagatgc
60
agctggctct tactccctgc catggggctc tgcacgtttg ccaccctggc actgatcctg
120
ctgggtgctgc tggaggctct gggccaggcg gacacacaga agatggtgga agcccagcgt
180
ggggctcgcc ctagagcctg ctactccatc tggctcctcc tggcgccctac accccctctc
240
agccactgct ttcagtctcc acagaaacag catcaagtgt gcggagacag gcggtgaaa
300
gccagcagca cgaactgcc gtcagagaag tgcacagcct gggccagata ctcccacagg
360
atggactcac tgcagaagca ggacctccgg agggccaaga tccatggggc agtccaggca
420
tctccctacc agccgcccac attggcttcg ctgcagcgct tgctgtgggt ccgtcaggct
480
gccacactga accatatcga tgaggctctg cccagcctct tcttgggaga tgcgtaacga
540
ggccgggaca agagcaagct gatccagctg ggaatcacc acgttgtgaa tgccgtgca
600
ggcaagtctc aggtggacac aggtgccaaa ttctaccgtg gaatgtccct ggagtactat
660
ggcatcgagg cggacgacaa ccccttcttc gacctcagt tctactttct gcctgttgct
720

```

cgatacatcc gagctgccct cagtgttccc caaggccgcg tgctggtaca ctgtgccatg  
780  
ggggtaaagcc gctctgccac acttgtcctg gccttcctca tgatctatga gaacatgaag  
840  
ctggttagagg ccatccagac ggtgcaggcc caccgcaata tctgccctaa ctcaggcttc  
900  
ctccggcagc tccaggttct ggacaaccga ctggggcggg agacggggcg gttctgatct  
960  
ggcaggcagc caggatccct gacccttggc ccaacccac cagcctggcc ctgggaacag  
1020  
caggctctgc tgtttctagt gaccctgaga tgtaaacagc aagtgggggc tgaggcagag  
1080  
gcagggatag ctgggtggtg acctcttagc ggggtggattt ccctgaccca attcagagat  
1140  
tctttatgca aaagtgagtt cagtccatct ctataataaa atattcatcg tcataaaaaa  
1200

&lt;210&gt; 4196

&lt;211&gt; 318

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4196

Xaa Gly Ser Leu Leu Ala Ala Val Trp Thr Asn Leu Ala Gln Pro Phe  
1 5 10 15  
His Arg Arg Cys Ser Trp Ser Leu Leu Pro Ala Met Gly Leu Cys Thr  
20 25 30  
Phe Ala Thr Leu Ala Leu Ile Leu Leu Val Leu Leu Glu Ala Leu Ala  
35 40 45  
Gln Ala Asp Thr Gln Lys Met Val Glu Ala Gln Arg Gly Val Gly Pro  
50 55 60  
Arg Ala Cys Tyr Ser Ile Trp Leu Leu Leu Ala Pro Thr Pro Pro Leu  
65 70 75 80  
Ser His Cys Leu Gln Ser Pro Gln Lys Gln His Gln Val Cys Gly Asp  
85 90 95  
Arg Arg Leu Lys Ala Ser Ser Thr Asn Cys Pro Ser Glu Lys Cys Thr  
100 105 110  
Ala Trp Ala Arg Tyr Ser His Arg Met Asp Ser Leu Gln Lys Gln Asp  
115 120 125  
Leu Arg Arg Pro Lys Ile His Gly Ala Val Gln Ala Ser Pro Tyr Gln  
130 135 140  
Pro Pro Thr Leu Ala Ser Leu Gln Arg Leu Leu Trp Val Arg Gln Ala  
145 150 155 160  
Ala Thr Leu Asn His Ile Asp Glu Val Trp Pro Ser Leu Phe Leu Gly  
165 170 175  
Asp Ala Tyr Ala Ala Arg Asp Lys Ser Lys Leu Ile Gln Leu Gly Ile  
180 185 190  
Thr His Val Val Asn Ala Ala Ala Gly Lys Phe Gln Val Asp Thr Gly  
195 200 205  
Ala Lys Phe Tyr Arg Gly Met Ser Leu Glu Tyr Tyr Gly Ile Glu Ala  
210 215 220  
Asp Asp Asn Pro Phe Phe Asp Leu Ser Val Tyr Phe Leu Pro Val Ala  
225 230 235 240  
Arg Tyr Ile Arg Ala Ala Leu Ser Val Pro Gln Gly Arg Val Leu Val

```
<210> 4197
<211> 597
<212> DNA
<213> Homo sapiens
```

```
<210> 4198
<211> 148
<212> PRT
<213> Homo sapiens
```

BNSDOCID: <WO 0058473A2 | >

				85					90					95					
Met	Ala	Asp	Tyr	Ser	Asn	Lys	Leu	Tyr	Tyr	Gln	Leu	Glu	Gln	Glu	Thr				
			100						105					110					
Gly	Ile	Gln	Thr	Gly	Tyr	Thr	Arg	Thr	Gly	Ser	Ile	Phe	Leu	Ala	Gln				
		115					120					125							
Thr	Gln	Asp	Arg	Leu	Ile	Ser	Leu	Lys	Arg	Ile	Asn	Ala	Gly	Leu	Lys				
	130					135					140								
Tyr	Val	Arg	Val																
145																			

&lt;210&gt; 4199

&lt;211&gt; 1769

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4199

```

nnatccgctc ggcttccctgg gtctgggtgc tgcgcccgc cgggtgtccgc ccgtgtcgcg
60
ccggggcacc aaggagccgt tggaggggtcc gggcgaggc ccgctcgtgt ggaagtcgtc
120
gacgccgcg ctcgtccgtc ctcccgtccg ttctcgctcc cggccgccat catgctggcg
180
ctcatctccc gctgtctgga ctggttccgt tcgctcttct ggaaggaaga gatggagctg
240
acgctcgtgg ggctgcagta ctcgggcaag accaccttcg tcaatgtcat cgcgtcaggt
300
caattcagtg aagatatgat acccacagtg ggcttcaaca tgaggaaggt aactaaaggt
360
aacgtcacaa taaagatctg ggacatagga ggacaacccc gatttcgaag catgtgggag
420
cgggtattgca gaggagtcaa tgctattgtt tacatgatag atgctgcaga tcgtgaaaag
480
atagaagctt cccgaaatga gtcacacaac ctactggaca aaccacagtt acaaggaatt
540
ccagtgttag tgcttggaag caagcgagac cttccgggag cattggatga gaaggagctg
600
attgagaaaa tgaatctgtc tgctattcag gatagagaaa tttgctgcta ttcaatttct
660
tgcaaagaaa aggataatat agatatcaca cttcagtggc ttattcagca ttcaaaatct
720
agaagaagct gaagcatctc ctgaagtctt ccagtccttc ttggctataa tcctagaatt
780
attgtccgtt cctctgaagt aattcccaga atacggctct tcctaaaccc cagaaattgc
840
ctttttcaga gtttatttct catgtgcact gctgaagatg aatatcccta atccttcata
900
aagaatcagc tagagttgtc atgataaagt cagcacacac aaaaaggctt cttacacata
960
cctgtcttaa accatgtgta gagcttttaa aacagaaaaa aaacccata tacttatgac
1020
catcttaaat caagaaaatt gcatatttcc attctgggtct ttctgggcca gatttttata
1080
ttgggttttca gtaaattgtc atctataata ttctattata gagtccagta gcttaatact
1140

```

gacactgact tgatacagca tgaagtttct agtgccacac acagtattta gaaaaccttt  
 1200  
 aggcgatgaat gactcatgtg ggatatatgt aaacataatg tttattttat ctcacaaatg  
 1260  
 catgtgaaat gtataattac atcttaggaa tccaaaatgg tctgcagaga gtgagcggag  
 1320  
 gcaccagatc aatggttggtt ctttgcactg gtgagattct gcctgatgaa tattaaagat  
 1380  
 atcctgcttt ctgagaactc tatcaccaga tggcagttgg gatatgggag gaactaaagc  
 1440  
 atcctgtttt gtatctgtcc agatcattat ttctgtctct tgttttttct tcttggttca  
 1500  
 ggatactttt ttaagggggtt gagaattgaa gattttccaa aagcgttcat gaatttagag  
 1560  
 cattccaccc aatataataa aacctgttaa gaatgtcagt ctttggttcaa acatctgttt  
 1620  
 gttctatctc cagtcattaa atcagtgtctg ctgcatgaca ctcttaactc ctgacttttt  
 1680  
 atatccagtc ataaagttga ctttcagcac aaaagatact tataaacaaa taaaaaattt  
 1740  
 ttatttttct ctcttactga tgtaagctt  
 1769

&lt;210&gt; 4200

&lt;211&gt; 186

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4200

Met	Leu	Ala	Leu	Ile	Ser	Arg	Leu	Leu	Asp	Trp	Phe	Arg	Ser	Leu	Phe	1	5	10	15
Trp	Lys	Glu	Glu	Met	Glu	Leu	Thr	Leu	Val	Gly	Leu	Gln	Tyr	Ser	Gly	20	25	30	
Lys	Thr	Thr	Phe	Val	Asn	Val	Ile	Ala	Ser	Gly	Gln	Phe	Ser	Glu	Asp	35	40	45	
Met	Ile	Pro	Thr	Val	Gly	Phe	Asn	Met	Arg	Lys	Val	Thr	Lys	Gly	Asn	50	55	60	
Val	Thr	Ile	Lys	Ile	Trp	Asp	Ile	Gly	Gly	Gln	Pro	Arg	Phe	Arg	Ser	65	70	75	80
Met	Trp	Glu	Arg	Tyr	Cys	Arg	Gly	Val	Asn	Ala	Ile	Val	Tyr	Met	Ile	85	90	95	
Asp	Ala	Ala	Asp	Arg	Glu	Lys	Ile	Glu	Ala	Ser	Arg	Asn	Glu	Leu	His	100	105	110	
Asn	Leu	Leu	Asp	Lys	Pro	Gln	Leu	Gln	Gly	Ile	Pro	Val	Leu	Val	Leu	115	120	125	
Gly	Asn	Lys	Arg	Asp	Leu	Pro	Gly	Ala	Leu	Asp	Glu	Lys	Glu	Leu	Ile	130	135	140	
Glu	Lys	Met	Asn	Leu	Ser	Ala	Ile	Gln	Asp	Arg	Glu	Ile	Cys	Cys	Tyr	145	150	155	160
Ser	Ile	Ser	Cys	Lys	Glu	Lys	Asp	Asn	Ile	Asp	Ile	Thr	Leu	Gln	Trp	165	170	175	
Leu	Ile	Gln	His	Ser	Lys	Ser	Arg	Arg	Ser							180	185		

<210> 4201  
 <211> 917  
 <212> DNA  
 <213> Homo sapiens

<400> 4201  
 ctgcaggacc tggagaatac ctgccctctc cctgcaacat cctccttttc ctttgcttcc  
 60  
 ctctcaact accgcaacat ctggaaaaat ctgcttatcc tgggcttcac caacttcatt  
 120  
 gcccatgcc a ttcgccactg ctaccagcct gtgggaggag gagggagccc atcggacttc  
 180  
 tacctgtgct ctctgctggc cagcggancc gcagccctgg cctgtgtctt cctgggggctc  
 240  
 accgtggacc gatttggccg ccggggcatc cttcttctct ccatgaccct taccggcatt  
 300  
 gcttccctgg tcctgctggg cctgtgggat tatctgaacg aggtgccat caccactttc  
 360  
 tctgtccttg ggctcttctc ctcccaagct gccgccatcc tcagcaccct ccttgtctgt  
 420  
 gaggtcatcc ccaccactgt ccggggccgt ggccctgggc tgatcatggc tctaggggag  
 480  
 cttggaggac tgagcggccc ggcccagcgc ctccacatgg gccatggagc cttcctgcag  
 540  
 cacgtggtgc tggcggcctg cgcctcctc tgcattctca gcattatgct gctgccggag  
 600  
 accaagcgca agctcctgcc cgaggtgctc cgggacgggg agctgtgtcg ccggccttcc  
 660  
 ctgctgcggc agccaacccc taccgctgt gaccacgtcc cgctgcttgc ccccccaac  
 720  
 cctgccctct gaacggcctc tgagtacct cctgtctgt ttgcattcac ttccttggcc  
 780  
 agagtcaggg gacagggaga gagctccaca ctgtaaccac tgggtctggg ctccatcctg  
 840  
 cgcccaaaga catccacca gacctatta attcttgctc tatcaatctg tttcaataaa  
 900  
 gacatttgga ataaacg  
 917

<210> 4202  
 <211> 243  
 <212> PRT  
 <213> Homo sapiens

<400> 4202  
 Leu Gln Asp Leu Glu Asn Thr Cys Pro Leu Pro Ala Thr Ser Ser Phe  
 1 5 10 15  
 Ser Phe Ala Ser Leu Leu Asn Tyr Arg Asn Ile Trp Lys Asn Leu Leu  
 20 25 30  
 Ile Leu Gly Phe Thr Asn Phe Ile Ala His Ala Ile Arg His Cys Tyr  
 35 40 45  
 Gln Pro Val Gly Gly Gly Gly Ser Pro Ser Asp Phe Tyr Leu Cys Ser  
 50 55 60  
 Leu Leu Ala Ser Gly Xaa Ala Ala Leu Ala Cys Val Phe Leu Gly Val

65		70		75		80									
Thr	Val	Asp	Arg	Phe	Gly	Arg	Arg	Gly	Ile	Leu	Leu	Leu	Ser	Met	Thr
				85					90					95	
Leu	Thr	Gly	Ile	Ala	Ser	Leu	Val	Leu	Leu	Gly	Leu	Trp	Asp	Tyr	Leu
		100						105					110		
Asn	Glu	Ala	Ala	Ile	Thr	Thr	Phe	Ser	Val	Leu	Gly	Leu	Phe	Ser	Ser
		115					120					125			
Gln	Ala	Ala	Ala	Ile	Leu	Ser	Thr	Leu	Leu	Ala	Ala	Glu	Val	Ile	Pro
		130					135				140				
Thr	Thr	Val	Arg	Gly	Arg	Gly	Leu	Gly	Leu	Ile	Met	Ala	Leu	Gly	Ala
145					150					155					160
Leu	Gly	Gly	Leu	Ser	Gly	Pro	Ala	Gln	Arg	Leu	His	Met	Gly	His	Gly
				165					170					175	
Ala	Phe	Leu	Gln	His	Val	Val	Leu	Ala	Ala	Cys	Ala	Leu	Leu	Cys	Ile
			180					185				190			
Leu	Ser	Ile	Met	Leu	Leu	Pro	Glu	Thr	Lys	Arg	Lys	Leu	Leu	Pro	Glu
		195				200						205			
Val	Leu	Arg	Asp	Gly	Glu	Leu	Cys	Arg	Arg	Pro	Ser	Leu	Leu	Arg	Gln
		210				215				220					
Pro	Thr	Pro	Thr	Arg	Cys	Asp	His	Val	Pro	Leu	Leu	Ala	Thr	Pro	Asn
225					230					235					240
Pro	Ala	Leu													

<210> 4203  
 <211> 1368  
 <212> DNA  
 <213> Homo sapiens

<400> 4203  
 ntcctttcca ctagaagcga ggtgtgtact gcgtgcatgt ttgctgagcg ctcaccacgg  
 60  
 gctaggctcc atgccagtt cctgtgagga gaaaacacgt ttctatgtgc ccggcaggta  
 120  
 ggaggcactc acaaaatggt actttgtctt tacagaattt tctgaaggag agataaaaac  
 180  
 tgagttaaat aaagatgatc agaatggatg agaaataact ttagacatta tttcattgaa  
 240  
 ccttcccaac tgaaattatt ttatgatggt ataacatgga tagtaactca agtagcaata  
 300  
 agttacacag ttgtgccatt tgtgcttctt tctataaaac catcactcac gttttacagc  
 360  
 tcttggtatt attgcttgc cattcttggg atcttagtat tattgttggt gccagtgaag  
 420  
 aaaaactcaa agaagaaaga atacacatga aaacattcag ctctcacaat ccaaaaagtt  
 480  
 tgatgaagga gaaaattctt tgggacagaa cagtttttct acaacaaaca atgtttgcaa  
 540  
 tcagaatcaa gaaatagcct cgagacattc atcactaaag cagtgatcgg gaaggctctg  
 600  
 agggctgttt tttttttttg atgttaacag aaaccaatct tagcaccttt tcaagggggt  
 660  
 tgagtttggt ggaaaagcag ttaactgggg ggaaatggac agttatagat aaggaatttc  
 720

ctgtacacca gattggaaat ggagtgaaac aagccctccc atgccatgtc cccgtgggcc  
 780  
 acgccttatg taagaatatt tccatatttc agtgggcact cccaacctca gcacttgtcc  
 840  
 gtaggggtcac acgcgtgccc tgttgctgaa tgtatgttgc gtatcccaag gcactgaaga  
 900  
 ggtggaaaaa taatcgtgtc aatctggatg atagagagaa attaactttt ccaaataaat  
 960  
 gtcttgccctt aaacctcta tttcctaaaa tattgttcct aaatgggtatt ttcaagtgtg  
 1020  
 atattgtgag aacgctactg cagtagttga tgttgtgtgc tgtaaaggat tttaggagga  
 1080  
 atttgaaca ggatatttaa gagtgtggat atttttaaaa tgcaataaac atctcagtat  
 1140  
 ttgaagggtt ttcttaaagt atgtcaaatg actacaatcc atagtgaaac tgtaaacagt  
 1200  
 aatggacgcc aaattatagg tagctgattt tgctggagag tttaattacc ttgtgcagtc  
 1260  
 aaagagcgt tccagaagga atctcttaaa acataatgag aggttttggtg atgtgatatt  
 1320  
 ttaagcttac tctttttctt aaaagagaga ggtgacgaag gaaggcag  
 1368

<210> 4204  
 <211> 80  
 <212> PRT  
 <213> Homo sapiens

<400> 4204  
 Met Arg Asn Asn Phe Arg His Tyr Phe Ile Glu Pro Ser Gln Leu Lys  
 1 5 10 15  
 Leu Phe Tyr Asp Val Ile Thr Trp Ile Val Thr Gln Val Ala Ile Ser  
 20 25 30  
 Tyr Thr Val Val Pro Phe Val Leu Ser Ile Lys Pro Ser Leu Thr  
 35 40 45  
 Phe Tyr Ser Ser Trp Tyr Tyr Cys Leu His Ile Leu Gly Ile Leu Val  
 50 55 60  
 Leu Leu Leu Leu Pro Val Lys Lys Asn Ser Lys Lys Lys Glu Tyr Thr  
 65 70 75 80

<210> 4205  
 <211> 6523  
 <212> DNA  
 <213> Homo sapiens

<400> 4205  
 gaagaggagg aggaagagga agaggaagag gaggaggagg aggcagctcc tgatgtgatc  
 60  
 tttcaggaag acacctctca cacctctgcc cagaaggccc ctgagctccg gggcccagaa  
 120  
 tcacccagtc ccaagcctga gtactctgtt attgtggagg tccgctcgga tgatgacaag  
 180  
 gacgaggaca cccactcccg gaagtcaaca gtcactgacg agtcggagat gcaggacatg  
 240



atgacccggg gaaacctggg cctcctggag caggccatcg ccctgaaggc tgaacagggtg  
300  
cgcacagtct gcgagccggg ctgcccgcct gccgagcaga gccagctggg cctgggagag  
360  
ccaggggaagg cagcaaagcc cctggacact gtgcggaaga gttactacag taaagatcct  
420  
tcaagagctg agaagcgtga gatcaagtgt ccaacaccag gctgtgatgg cactggccac  
480  
gttaccgggt tgtaccctca ccaccgcagc ctttctggct gtccccacaa ggataggatc  
540  
ccccagaga tcttagccat gcatgagaac gtgctgaagt gcccactcc tggctgcaca  
600  
ggccagggtc acgtgaacag caaccgcaac acgcacagaa gtttgtctgg gtgtccatt  
660  
gctgccgccc aaaaattagc caaatcccat gagaagcagc agccgcagac aggagatcct  
720  
tccaagagta gctccaattc cgatcggatc ctcaggccca tgtgttcgt gaagcagctc  
780  
gaggtccctc catatgggag ctaccggccc aacgtggccc ccgccacacc cagggccaac  
840  
ttggccaagg agctggagaa gttctccaag gtcaccttg actacgcaag tttcgatgct  
900  
caggtttttg gcaaacgcat gcttgcccca aagattcaga ccagcgaaac ctcacctaaa  
960  
gcctttcaat gctttgacta ctgcgaggac gccgaggctg cacacatggc tgccactgcc  
1020  
atcctgaacc tctccacgcg ctgctgggag atgcctgaga accttagcac gaagccacag  
1080  
gacctcccca gcaagtctgt ggatatcgag gtagacgaaa atggaaccct ggacttgagc  
1140  
atgcacaaac accgcaaacg agaaaatgct tccccagca gcagcagctg cagcagcagc  
1200  
cccgtgtga agtctcccga cgctcccag gccacagca gcaccagcgc cccagcagc  
1260  
tccatgacct ctccccagtc cagccaggcc tcccgccagg acgagtggga ccggcccctg  
1320  
gactacacca agcctagccg cctgagagag gaggaacctg aggagtcaga gccagcagcc  
1380  
cattcttttg cttcttctga agcagatgac caggaagtgt cggaagagaa ttttgaggag  
1440  
cggaagtatc cgggggaagt caccctgacc aactttaagc tgaagtttct ctccaaggac  
1500  
ataaagaagg agctgctcac ctgtcccacc cctggctgtg acggcagcgg ccacatcacc  
1560  
gggaactacg cctcccaccg cagcctctct ggttgccctc ttgctgacaa gagcctcaga  
1620  
aacctcatgg ctgcccactc tgctgacctc aagtgcccc aegccggctg tgacggctct  
1680  
ggccacatca cagggaacta cgcttcacac cggagcttgt ccggctgccc tcgtgcaaag  
1740  
aaaagtggag tcaagtggtg acccaccaag gacgacaagg aggaccccga gctgatgaag  
1800  
tgcccagttc caggctgtgt ggggctcggt cacatcagcg ggaaatacgc ctctcacagg  
1860

agcgcacccg gctgcccact ggccgcccgc aggcagaagg aagggtccct caatggctcg  
1920  
tcattctcct ggaagtccct gaagaatgaa ggaccgacct gccccacccc gggctgtgac  
1980  
ggctctggcc acgccaatgg gagtttcctc acccaccgga gtttgtcagg ctgtcccaga  
2040  
gcaacctttg ctggaaagaa gggaaaactg tcaggggatg aggtcctcag tccaaagttc  
2100  
aagactagcg acgtgttggg gaatgatgag gagatcaagc agctgaacca ggagatccga  
2160  
gacctgaacg agtccaactc ggagatggag gctgccatgg tgcagctgca gtcccagatc  
2220  
tcctccatgg agaagaacct gaagaacatc gaggaggaga acaagctcat tgaggagcag  
2280  
aatgaagccc tgtttctgga gctgtccggc ctgagccagg ccctcatcca aagtctcgcc  
2340  
aatatccgcc ttccgcacat ggagccaata tgcgaacaga atttcgatgc ctatgtgagc  
2400  
accctcaccg acatgtactc caaccaggac ccggagaaca aggacctcct ggagagcatc  
2460  
aagcaggctg tgaggggcat ccaggcttag gccgtgtggt acccagaagt gtcccagccc  
2520  
accacaccgt ttacctcctc cgccctgccc cgcaccgtgg ggatgcccac ctcacagtga  
2580  
cttcccgttt ggggcccggg gtggcccgcg gcgggtttat ccaaagggat ggctggaaat  
2640  
tgcccgctcc cagcaggctc cctccaggct tggggccgtg gtggccctat ctgtgtgcat  
2700  
aggggcaactg aagaattaca aagtgattta tttttgtttt ctgaaagaaa tctgaagagc  
2760  
agctcaaagt ctccagtggg agctcatgga caagggtctc agtattgcct aagtgtaatc  
2820  
ttgaacatgg gcggtgctgt gagggtggt gaagacaatg atgagctgat agataatttg  
2880  
aaagaagcac agtatatccg gactgagctg gtagagcagg ctttcagagc tatcgatcgt  
2940  
gcagactatt atcttgaaga atttaaagaa aatgcttata aagacttggc atggaagcat  
3000  
ggaaacattc acctctcagc ccggtgcac tactcgagg tgatggaagc cctagatctg  
3060  
cagcctggac tctcgtttct gaacctgggc agtggcactg ggtatctcag ctccatggtg  
3120  
ggcctcattc taggtccttt tgggtgtgaa catgggggtg aacttcactc agatgtgata  
3180  
gagtatgcaa agcagaaact ggacttcttc atcagaacaa gtgatagttt tgacaagttt  
3240  
gacttctgtg aaccttctt tgttactggg aattgctgg agatttctcc ggattgttct  
3300  
cagtatgac gtgtatactg tggggctggc gtgcagaaag agcatgaaga gtacatgaag  
3360  
aatcttctca aagtgggagg gatccttgtc atgccactgg aagagaagtt gactaagata  
3420  
acacgcacag gtccttcagc ttgggaaacc aaaaagattc ttgctgtttc ttttgctcct  
3480

ctgatccagc cctgccattc agagtcagga aaatcaagac ttgtccagtt accaccagtg  
3540  
gcagttcgca gcctccagga cttggctcgc atcgccatcc ggggcaccat taaaaagatt  
3600  
attcatcagg aaactgtgag caaaaacgga aacggactaa agaacacccc caggttttaa  
3660  
cgaaggagag ttcgccgccc tgaatggaa acgattgtct ttttgacaa agaagtcttt  
3720  
gccagtcgga tttccaaccc ctcatatgac aacagctgtg aagacttgga agaggaacgg  
3780  
agggaagaag aagagaagac cccgccggaa acaaagccag acccccagt gaacttcta  
3840  
cgccagaagg tctgagcct ccctctgcc gatccctga aatactactt gctttattac  
3900  
agagaaaaat aagtctcctg tttgaaagg ggaaatagga agagcagatt gctgagtgtg  
3960  
aagttcgtgc tgctgtgtg ctgttgaagg gtcacctgga ggcagacgtt gtggggaagg  
4020  
gaactgctgg gtcacccac accatggttt tcttctagtt cctgattgac ctctaaaatt  
4080  
ctattcagtt gtatgatttg tttacatagt tccacaagac cttcattgca tagaagattg  
4140  
ttttcccaa gtggagagaa tttcataga gaaaaagaga aggctgtttc ttttcggct  
4200 actgaagtct gcgtaagaga gactgtttga tgaccgtccc tcatgcaaca 4260  
tgcacggtag tcaactaaaa tgaaaactga agtggaaact aacctgtgtt gcttataaag  
4320  
tgtgaaagca caagcttata aatgtataaa atcttttctg ggtgtgacgc acctgcgtcc  
4380  
aagtttgaat ttttatgata tgtaccactt aattactggc actgagtatc actgaatttc  
4440  
ttagttttct agtggggaaa cattattgag aagccctccc ttattttaag taagttgatt  
4500  
aaatcttatg tgagttgcca gttgtaattt ttcaaaggaa aaattttgat ggggtggagg  
4560  
aatgaattgc cagataatct ttctggaatt ccgagagaat tccaaagagg gttttttttt  
4620  
tttttttag gacatctttt gataccttta aaagaaccac tgtcaagtaa tccttaaaag  
4680  
aatatcttgg aaaaggaaac agattttttc ctgtgtgtaa gcaataagtg aagttacatt  
4740  
tgccctaacc ctagggatga ttctttaccc agtttttaaag cccatcatgg tattctaagg  
4800  
tgttgacacc ctccatctc agagcaggtc gaaaatatta aatagactgg ggactctatg  
4860  
atgggcagcc tgtgtttttt gacttcagtt tgctattttt ctgtgatcac attagtactg  
4920  
attcatagat tctatctttt ataattctgg agaaaaagat ttgttagttt tgtaattttt  
4980  
ttgtaagacc aaatgtatgt attttagtag ctccattgca tgagaagagt gtaactcaca  
5040  
ctgacttgtg atatcagcct tctctgggcc ttgtgtgtgg agagctttct atcttacaa  
5100  
gtggtagggc taaaagaaca acagcctttt tggtagtcac atagcagaat gatcagagtt  
5160

acattgctta ttccaaaaca ttggttcttt ttaaaacatt tttttttacc caaagaaaag  
 5220  
 aataatagaa attactaaca ataaatataa attcagagtg ttgatatagg attcagtatc  
 5280  
 cagagtttat ttttaatctt aatcctcagc ttcttgggag ttgctgggct tcagtgtctc  
 5340  
 tgtggtttca ccagcttagc ttgagctctg gttattttgg atcttttctg ctttttttaa  
 5400  
 gtaactgagt cattttttacc acacagtcca gtttgcattg atagctagga aacatgtatt  
 5460  
 gctctagatt gggcagttta agtcatttta aagaaagtta gttcatagtt gttgcctttt  
 5520  
 aactcatagt caagcttcag tctttcaaag agaaatgtgt gatttttcatt tacttgctga  
 5580  
 tattttgtag ttggagatc cttgtgggca ttattctaac tgatacgtag acatttactt  
 5640  
 ggaaattttt ggacattata ttaaagtgtg gctatctgtg aaattgggta tattaggtgg  
 5700  
 cttgactaat gttttttcta taattgtata tggactgcat ttttaaaaaa accgcatttg  
 5760  
 cttttatgct agattgtaaa aaattatatt agaatgcata agacatgttt ttccttcata  
 5820  
 tgctagactt ttcctagcat ttcgtatttc tgtgtgtgca gtgtgtgatt tttaaaccgg  
 5880  
 aatttgggtt aaaaaaaatc tgggtggaat atatgtgaga aatactttgg tgtttacctt  
 5940  
 atgaaaataa aggattgtaa gtaaagtttc ctgcgcacct tataccagaa ttcagtataa  
 6000  
 tacactactt tctgttttca aacagataaa tcataatata gtctgtatta tctgtaagat  
 6060  
 ctgtcttgta aaccacattc ttgacaacta tttgcttttg agtagtttgt attttaatat  
 6120  
 gtgacttttg tcttgaaaag tagtaaagcc atagacttgt gcaaaacaag tttcaagttt  
 6180  
 atagatatta agtttgtaat gtgagcatca aatgtgtatg taaaaatact tttaccagt  
 6240  
 ctggaacttg ggaaaatcca gggaatttga aacatagatt ttaatgagct ggtaaacaca  
 6300  
 aatcatgtca ataaaggtag tcaggatatt ttatccttag cattgcttct gcatcctgtg  
 6360  
 taggattcca attcttgaat atgttctttt caaaatctta agaaaagaac cttttttctt  
 6420  
 tattaacatc atgtgtttac tttcagcaaa tatttgtatt actgcttgat tctgtgacat  
 6480  
 tcacaataga tgtagagaag gcattatttt tcattaataa atg  
 6523

<210> 4206  
 <211> 829  
 <212> PRT  
 <213> Homo sapiens

<400> 4206  
 Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Ala Ala

1	5					10					15				
Pro	Asp	Val	Ile	Phe	Gln	Glu	Asp	Thr	Ser	His	Thr	Ser	Ala	Gln	Lys
			20				25						30		
Ala	Pro	Glu	Leu	Arg	Gly	Pro	Glu	Ser	Pro	Ser	Pro	Lys	Pro	Glu	Tyr
			35				40						45		
Ser	Val	Ile	Val	Glu	Val	Arg	Ser	Asp	Asp	Asp	Lys	Asp	Glu	Asp	Thr
			50				55						60		
His	Ser	Arg	Lys	Ser	Thr	Val	Thr	Asp	Glu	Ser	Glu	Met	Gln	Asp	Met
65				70						75			80		
Met	Thr	Arg	Gly	Asn	Leu	Gly	Leu	Leu	Glu	Gln	Ala	Ile	Ala	Leu	Lys
			85						90			95			
Ala	Glu	Gln	Val	Arg	Thr	Val	Cys	Glu	Pro	Gly	Cys	Pro	Pro	Ala	Glu
			100						105			110			
Gln	Ser	Gln	Leu	Gly	Leu	Gly	Glu	Pro	Gly	Lys	Ala	Ala	Lys	Pro	Leu
			115						120			125			
Asp	Thr	Val	Arg	Lys	Ser	Tyr	Tyr	Ser	Lys	Asp	Pro	Ser	Arg	Ala	Glu
			130			135						140			
Lys	Arg	Glu	Ile	Lys	Cys	Pro	Thr	Pro	Gly	Cys	Asp	Gly	Thr	Gly	His
145				150						155			160		
Val	Thr	Gly	Leu	Tyr	Pro	His	His	Arg	Ser	Leu	Ser	Gly	Cys	Pro	His
			165						170			175			
Lys	Asp	Arg	Ile	Pro	Pro	Glu	Ile	Leu	Ala	Met	His	Glu	Asn	Val	Leu
			180						185			190			
Lys	Cys	Pro	Thr	Pro	Gly	Cys	Thr	Gly	Gln	Gly	His	Val	Asn	Ser	Asn
			195			200						205			
Arg	Asn	Thr	His	Arg	Ser	Leu	Ser	Gly	Cys	Pro	Ile	Ala	Ala	Ala	Glu
			210			215						220			
Lys	Leu	Ala	Lys	Ser	His	Glu	Lys	Gln	Gln	Pro	Gln	Thr	Gly	Asp	Pro
225				230						235			240		
Ser	Lys	Ser	Ser	Ser	Asn	Ser	Asp	Arg	Ile	Leu	Arg	Pro	Met	Cys	Phe
			245						250			255			
Val	Lys	Gln	Leu	Glu	Val	Pro	Pro	Tyr	Gly	Ser	Tyr	Arg	Pro	Asn	Val
			260						265			270			
Ala	Pro	Ala	Thr	Pro	Arg	Ala	Asn	Leu	Ala	Lys	Glu	Leu	Glu	Lys	Phe
			275						280			285			
Ser	Lys	Val	Thr	Phe	Asp	Tyr	Ala	Ser	Phe	Asp	Ala	Gln	Val	Phe	Gly
			290			295						300			
Lys	Arg	Met	Leu	Ala	Pro	Lys	Ile	Gln	Thr	Ser	Glu	Thr	Ser	Pro	Lys
305				310						315			320		
Ala	Phe	Gln	Cys	Phe	Asp	Tyr	Ser	Gln	Asp	Ala	Glu	Ala	Ala	His	Met
			325						330			335			
Ala	Ala	Thr	Ala	Ile	Leu	Asn	Leu	Ser	Thr	Arg	Cys	Trp	Glu	Met	Pro
			340						345			350			
Glu	Asn	Leu	Ser	Thr	Lys	Pro	Gln	Asp	Leu	Pro	Ser	Lys	Ser	Val	Asp
			355						360			365			
Ile	Glu	Val	Asp	Glu	Asn	Gly	Thr	Leu	Asp	Leu	Ser	Met	His	Lys	His
			370			375						380			
Arg	Lys	Arg	Glu	Asn	Ala	Phe	Pro	Ser	Ser	Ser	Ser	Cys	Ser	Ser	Ser
385				390						395			400		
Pro	Gly	Val	Lys	Ser	Pro	Asp	Ala	Ser	Gln	Arg	His	Ser	Ser	Thr	Ser
			405						410			415			
Ala	Pro	Ser	Ser	Ser	Met	Thr	Ser								

435 440 445  
 Arg Glu Glu Glu Pro Glu Glu Ser Glu Pro Ala Ala His Ser Phe Ala  
 450 455 460  
 Ser Ser Glu Ala Asp Asp Gln Glu Val Ser Glu Glu Asn Phe Glu Glu  
 465 470 475 480  
 Arg Lys Tyr Pro Gly Glu Val Thr Leu Thr Asn Phe Lys Leu Lys Phe  
 485 490 495  
 Leu Ser Lys Asp Ile Lys Lys Glu Leu Leu Thr Cys Pro Thr Pro Gly  
 500 505 510  
 Cys Asp Gly Ser Gly His Ile Thr Gly Asn Tyr Ala Ser His Arg Ser  
 515 520 525  
 Leu Ser Gly Cys Pro Leu Ala Asp Lys Ser Leu Arg Asn Leu Met Ala  
 530 535 540  
 Ala His Ser Ala Asp Leu Lys Cys Pro Thr Pro Gly Cys Asp Gly Ser  
 545 550 555 560  
 Gly His Ile Thr Gly Asn Tyr Ala Ser His Arg Ser Leu Ser Gly Cys  
 565 570 575  
 Pro Arg Ala Lys Lys Ser Gly Val Lys Val Ala Pro Thr Lys Asp Asp  
 580 585 590  
 Lys Glu Asp Pro Glu Leu Met Lys Cys Pro Val Pro Gly Cys Val Gly  
 595 600 605  
 Leu Gly His Ile Ser Gly Lys Tyr Ala Ser His Arg Ser Ala Ser Gly  
 610 615 620  
 Cys Pro Leu Ala Ala Arg Arg Gln Lys Glu Gly Ser Leu Asn Gly Ser  
 625 630 635 640  
 Ser Phe Ser Trp Lys Ser Leu Lys Asn Glu Gly Pro Thr Cys Pro Thr  
 645 650 655  
 Pro Gly Cys Asp Gly Ser Gly His Ala Asn Gly Ser Phe Leu Thr His  
 660 665 670  
 Arg Ser Leu Ser Gly Cys Pro Arg Ala Thr Phe Ala Gly Lys Lys Gly  
 675 680 685  
 Lys Leu Ser Gly Asp Glu Val Leu Ser Pro Lys Phe Lys Thr Ser Asp  
 690 695 700  
 Val Leu Glu Asn Asp Glu Glu Ile Lys Gln Leu Asn Gln Glu Ile Arg  
 705 710 715 720  
 Asp Leu Asn Glu Ser Asn Ser Glu Met Glu Ala Ala Met Val Gln Leu  
 725 730 735  
 Gln Ser Gln Ile Ser Ser Met Glu Lys Asn Leu Lys Asn Ile Glu Glu  
 740 745 750  
 Glu Asn Lys Leu Ile Glu Glu Gln Asn Glu Ala Leu Phe Leu Glu Leu  
 755 760 765  
 Ser Gly Leu Ser Gln Ala Leu Ile Gln Ser Leu Ala Asn Ile Arg Leu  
 770 775 780  
 Pro His Met Glu Pro Ile Cys Glu Gln Asn Phe Asp Ala Tyr Val Ser  
 785 790 795 800  
 Thr Leu Thr Asp Met Tyr Ser Asn Gln Asp Pro Glu Asn Lys Asp Leu  
 805 810 815  
 Leu Glu Ser Ile Lys Gln Ala Val Arg Gly Ile Gln Val  
 820 825

&lt;210&gt; 4207

&lt;211&gt; 1016

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4207

ttttttttg tgatttgggt ctgatctgcc tttgcatctg aagttcttga ctagtcagaa  
 60  
 gtttcttatt atttctgaca gacaggttct gaggagaaat taatttagtc ttttttcggg  
 120  
 tatcaactac tccaacagtt ttgccatgat cacgtaattg agctacataa tccaaagacc  
 180  
 gctgggacaa ctcatatgcc ttacgaggac cttttttcag gccaaagtctc tcagctgttg  
 240  
 aagttggctc aggacactga cgaaatttct ttggcggcac tatagcagga gttgttctac  
 300  
 aacttaggta atttgaactt ctattctgtc cttttttggc atctgaatga gttttcttag  
 360  
 gggctttaga aactggaact ttctctgatgg gttctgtaca agtacaagc tttgaagact  
 420  
 tcttttgta aaccgtagtg gctctctgaa tacgtgaatt gggagttgaa gtccttctat  
 480  
 caatactttt aaaatcattt cccacaagct ctctcttatt agtatcagac tggccctcat  
 540  
 ttctgacaga agatgaagac ctcacaggat cttcagccat tggtttttca gatcgtttct  
 600  
 tcttaggctt ttttacttca atttcacaaa attcttcaac agaaatactc cgtgggtcttg  
 660  
 tgtgttcttc aatgccctct gtcctttttt taacaacttc agatacataa tctgtacaac  
 720  
 cctgaccatt tgtagtattg gctataggag ccaaacattt tttctcacca tcttgaactg  
 780  
 aattattatc gtctggatga tcttgccaaa ctgaaaacac ttcagatgaa ctttcaaact  
 840  
 caaaacactg agaatcagat tcctcaaact gaaaaagagt ctctgtcttt tcttccttta  
 900  
 ctggattctt ttctctctta ctattaactg ttgaaacgtg ctgctctgga tgttccctct  
 960  
 caaggcatat tttgtctgt ttagtgagtt tctcaagact caggattctt tcatca  
 1016

&lt;210&gt; 4208

&lt;211&gt; 193

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4208

Met	Ala	Glu	Asp	Pro	Val	Arg	Ser	Ser	Ser	Ser	Val	Arg	Asn	Glu	Gly
1				5				10					15		
Gln	Ser	Asp	Thr	Asn	Lys	Arg	Glu	Leu	Val	Gly	Asn	Asp	Phe	Lys	Ser
		20					25					30			
Ile	Asp	Arg	Arg	Thr	Ser	Thr	Pro	Asn	Ser	Arg	Ile	Gln	Arg	Ala	Thr
		35				40					45				
Thr	Val	Ser	Gln	Lys	Lys	Ser	Ser	Lys	Leu	Cys	Thr	Cys	Thr	Glu	Pro
	50				55			60							
Ile	Arg	Lys	Val	Pro	Val	Ser	Lys	Thr	Pro	Lys	Lys	Thr	His	Ser	Asp
65				70				75					80		
Ala	Lys	Lys	Gly	Gln	Asn	Arg	Ser	Ser	Asn	Tyr	Leu	Ser	Cys	Arg	Thr

				85					90					95					
Thr	Pro	Ala	Ile	Val	Pro	Pro	Lys	Lys	Phe	Arg	Gln	Cys	Pro	Glu	Pro				
				100					105					110					
Thr	Ser	Thr	Ala	Glu	Lys	Leu	Gly	Leu	Lys	Lys	Gly	Pro	Arg	Lys	Ala				
				115				120					125						
Tyr	Glu	Leu	Ser	Gln	Arg	Ser	Leu	Asp	Tyr	Val	Ala	Gln	Leu	Arg	Asp				
				130			135				140								
His	Gly	Lys	Thr	Val	Gly	Val	Val	Asp	Thr	Arg	Lys	Lys	Thr	Lys	Leu				
145					150				155						160				
Ile	Ser	Pro	Gln	Asn	Leu	Ser	Val	Arg	Asn	Asn	Lys	Lys	Leu	Leu	Thr				
				165				170						175					
Ser	Gln	Glu	Leu	Gln	Met	Gln	Arg	Gln	Ile	Arg	Pro	Lys	Ser	Gln	Lys				
			180					185					190						

Lys

&lt;210&gt; 4209

&lt;211&gt; 2661

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4209

```

ntctcctgta cctgggcatc cagaaaaatg gtggtgatgg cgcgactttc gcggcccagag
60
cggccgggacc ttgtcttcga ggaagaggac ctcccctatg aggaggaaat catgcggaac
120
caattctctg tcaaagtctg gcttcgctac atcgagttca aacagggcgc cccgaagccc
180
aggctcaatc agctatacga gcggggcactc aagctgctgc cctgcagcta caaactctgg
240
taccgatacc tgaaggcgcg tcgggcacag gtgaagcatc gctgtgtgac cgaccttgcc
300
tatgaagatg tcaacaactg tcatgagagg gcctttgtgt tcatgcacaa gatgcctcgt
360
ctgtggctag attactgcca gttcctcatg gaccaggggc gcgtcacaca caccgcccgc
420
accttcgacc gtgccctccg ggcactgccc atcacgcagc actctcgaat ttggcccctg
480
tatctgcgct tcctgcgctc acacccactg cctgagacag ctgtgcgagg ctatcggcgc
540
ttcctcaagc tgagtcctga gagtgcagag gactacattg agtacctcaa gtcaagtgc
600
cggctggatg aggccgcca gcgcctggcc accgtggtga acgacgagcg ttctgtgtct
660
aaggccggca agtccaacta ccagctgtgg cactgagctgt gcgacctcat ctcccagaat
720
ccggacaagg tacagtccct caatgtggac gccatcatcc gcgggggcct caccgcttc
780
accgaccagc tgggcaagct ctggtgttct ctgcccact actacatccg cagcggccat
840
ttcgagaagg ctcgggacgt gtacgaggag gccatccgga cagtgatgac cgtgcgggac
900
ttcacacagg tgtttgacag ctacgcccag ttcgaggaga gcatgatcgc tgcaaagatg
960

```



gagaccgcct cggagctggg tcgagaggag gaggatgatg tggacctgga gctgcgcctg  
1020  
gcccgccttcg agcacctcat cagccggcgg cccctgcacc tcagcagcgt cttgctgcgc  
1080  
caaaacccac accacgtgca cgagtggcac aagcgtgtcg ccctgcacca gggccgcccc  
1140  
cgggagatca tcaacaccta cacagaggct gtgcagacgg tggaccctt caaggccaca  
1200  
ggcaagcccc acactctgtg ggtggcgttt gccaaagtttt atgaggacaa cggacagctg  
1260  
gacgatgccc gtgtcatcct ggagaaggcc accaaggtga acttcaagca ggtggatgac  
1320  
ctggcaagcg tgtggtgtca gtgcggagag ctggagctcc gacacgagaa ctacgatgag  
1380  
gccttgccggc tgctgcgaaa ggccacggcg ctgcctccgc cgggcccaggt atttgatggt  
1440  
tcagagcccc tgcagaaccg cgtgtacaag tctactgaagg tctggtccat gctcgccgac  
1500  
ctggaggaga gcctcggcac cttccagtc accaaggccg tgtacgaccg catcctggac  
1560  
ctgcgtatcg caacacccca gatcgtcatc aactatgcca tgttcctgga ggagcacaag  
1620  
tacttcgagg agagcttcaa ggcgtacgag cgcggcatct cgctgttcaa gtggcccaac  
1680  
gtgtccgaca tctggagcac ctacctgacc aaattcattg cccgctatgg gggccgcaag  
1740  
ctggagcggg cacgggacct gtttgaacag gctctggacg gctgcccccc aaaatatgcc  
1800  
aagaccttgt acctgctgta cgcacagctg gaggaggagt ggggcctggc ccggcatgcc  
1860  
atggccgtgt acgagcgtgc caccagggcc gtggagcccc cccagcagta tgacatgttc  
1920  
aacatctaca tcaagcgggc ggccgagatc tatgggggtca cccacacccg cggcatctac  
1980  
cagaaggcca ttgaggtgct gtcggacgag cacgcgcgtg agatgtgcct gcggtttgca  
2040  
gacatggagt gcaagctcgg ggagatcgac cgcgcccggg ctatctacag cttctgctcc  
2100  
cagatctgtg atccccggac aactggggca ttctggcaaa cgtggaagga ctttgaggtc  
2160  
cggcatggca acgaggacac catcaggag atgctgagga tacggcggag tgtgcaggcc  
2220  
acgtacaaca ctcaggtcaa cttcatggcc tcgcagatgc tcaaggtgtc gggcagtgcc  
2280  
acgggcaccg tgtctgacct ggctcccggg cagagcggca tggatgacat gaagttgctg  
2340  
gaacagagag cagaacagct ggcggctgag gcggagcgtg accagccctt gcgcgcccag  
2400  
agcaagatcc tgttcgtgag gagtgcgcc tcccgggagg agctggcaga gctggcacag  
2460  
caggtcaacc ccgaggagat ccagctgggc gaggacgagg acgaggacga gatggacctg  
2520  
gagcccaacg aggttcggct ggagcagcag agcgtgccag ccgcagtggt tgggagcctg  
2580

aaggaagact gacccgtccc tcccccatcc cccctcccca cccctcccc aatacagcta  
 2640  
 cgtttgtaca tcaaaaaaaaa a  
 2661

<210> 4210

<211> 863

<212> PRT

<213> Homo sapiens

<400> 4210

Xaa	Ser	Cys	Thr	Trp	Ala	Ser	Arg	Lys	Met	Val	Val	Met	Ala	Arg	Leu
1				5					10					15	
Ser	Arg	Pro	Glu	Arg	Pro	Asp	Leu	Val	Phe	Glu	Glu	Glu	Asp	Leu	Pro
			20				25						30		
Tyr	Glu	Glu	Glu	Ile	Met	Arg	Asn	Gln	Phe	Ser	Val	Lys	Cys	Trp	Leu
	35					40						45			
Arg	Tyr	Ile	Glu	Phe	Lys	Gln	Gly	Ala	Pro	Lys	Pro	Arg	Leu	Asn	Gln
	50				55						60				
Leu	Tyr	Glu	Arg	Ala	Leu	Lys	Leu	Leu	Pro	Cys	Ser	Tyr	Lys	Leu	Trp
65				70					75					80	
Tyr	Arg	Tyr	Leu	Lys	Ala	Arg	Arg	Ala	Gln	Val	Lys	His	Arg	Cys	Val
			85					90						95	
Thr	Asp	Pro	Ala	Tyr	Glu	Asp	Val	Asn	Asn	Cys	His	Glu	Arg	Ala	Phe
			100					105					110		
Val	Phe	Met	His	Lys	Met	Pro	Arg	Leu	Trp	Leu	Asp	Tyr	Cys	Gln	Phe
	115						120					125			
Leu	Met	Asp	Gln	Gly	Arg	Val	Thr	His	Thr	Arg	Arg	Thr	Phe	Asp	Arg
	130				135						140				
Ala	Leu	Arg	Ala	Leu	Pro	Ile	Thr	Gln	His	Ser	Arg	Ile	Trp	Pro	Leu
145				150						155				160	
Tyr	Leu	Arg	Phe	Leu	Arg	Ser	His	Pro	Leu	Pro	Glu	Thr	Ala	Val	Arg
			165					170						175	
Gly	Tyr	Arg	Arg	Phe	Leu	Lys	Leu	Ser	Pro	Glu	Ser	Ala	Glu	Glu	Tyr
		180					185					190			
Ile	Glu	Tyr	Leu	Lys	Ser	Ser	Asp	Arg	Leu	Asp	Glu	Ala	Ala	Gln	Arg
	195					200						205			
Leu	Ala	Thr	Val	Val	Asn	Asp	Glu	Arg	Phe	Val	Ser	Lys	Ala	Gly	Lys
	210				215						220				
Ser	Asn	Tyr	Gln	Leu	Trp	His	Glu	Leu	Cys	Asp	Leu	Ile	Ser	Gln	Asn
225				230						235				240	
Pro	Asp	Lys	Val	Gln	Ser	Leu	Asn	Val	Asp	Ala	Ile	Ile	Arg	Gly	Gly
			245					250						255	
Leu	Thr	Arg	Phe	Thr	Asp	Gln	Leu	Gly	Lys	Leu	Trp	Cys	Ser	Leu	Ala
		260					265					270			
Asp	Tyr	Tyr	Ile	Arg	Ser	Gly	His	Phe	Glu	Lys	Ala	Arg	Asp	Val	Tyr
	275					280					285				
Glu	Glu	Ala	Ile	Arg	Thr	Val	Met	Thr	Val	Arg	Asp	Phe	Thr	Gln	Val
	290				295					300					
Phe	Asp	Ser	Tyr	Ala	Gln	Phe	Glu	Glu	Ser	Met	Ile	Ala	Ala	Lys	Met
305				310						315				320	
Glu	Thr	Ala	Ser	Glu	Leu	Gly	Arg	Glu	Glu	Glu	Asp	Asp	Val	Asp	Leu
			325					330						335	
Glu	Leu	Arg	Leu	Ala	Arg	Phe	Glu	His	Leu	Ile	Ser	Arg	Arg	Pro	Leu

340						345					350				
His	Leu	Ser	Ser	Val	Leu	Leu	Arg	Gln	Asn	Pro	His	His	Val	His	Glu
355						360					365				
Trp	His	Lys	Arg	Val	Ala	Leu	His	Gln	Gly	Arg	Pro	Arg	Glu	Ile	Ile
370						375					380				
Asn	Thr	Tyr	Thr	Glu	Ala	Val	Gln	Thr	Val	Asp	Pro	Phe	Lys	Ala	Thr
385						390					395				
Gly	Lys	Pro	His	Thr	Leu	Trp	Val	Ala	Phe	Ala	Lys	Phe	Tyr	Glu	Asp
405						410					415				
Asn	Gly	Gln	Leu	Asp	Asp	Ala	Arg	Val	Ile	Leu	Glu	Lys	Ala	Thr	Lys
420						425					430				
Val	Asn	Phe	Lys	Gln	Val	Asp	Asp	Leu	Ala	Ser	Val	Trp	Cys	Gln	Cys
435						440					445				
Gly	Glu	Leu	Glu	Leu	Arg	His	Glu	Asn	Tyr	Asp	Glu	Ala	Leu	Arg	Leu
450						455					460				
Leu	Arg	Lys	Ala	Thr	Ala	Leu	Pro	Pro	Pro	Gly	Arg	Val	Phe	Asp	Gly
465						470					475				
Ser	Glu	Pro	Val	Gln	Asn	Arg	Val	Tyr	Lys	Ser	Leu	Lys	Val	Trp	Ser
485						490					495				
Met	Leu	Ala	Asp	Leu	Glu	Glu	Ser	Leu	Gly	Thr	Phe	Gln	Ser	Thr	Lys
500						505					510				
Ala	Val	Tyr	Asp	Arg	Ile	Leu	Asp	Leu	Arg	Ile	Ala	Thr	Pro	Gln	Ile
515						520					525				
Val	Ile	Asn	Tyr	Ala	Met	Phe	Leu	Glu	Glu	His	Lys	Tyr	Phe	Glu	Glu
530						535					540				
Ser	Phe	Lys	Ala	Tyr	Glu	Arg	Gly	Ile	Ser	Leu	Phe	Lys	Trp	Pro	Asn
545						550					555				
Val	Ser	Asp	Ile	Trp	Ser	Thr	Tyr	Leu	Thr	Lys	Phe	Ile	Ala	Arg	Tyr
565						570					575				
Gly	Gly	Arg	Lys	Leu	Glu	Arg	Ala	Arg	Asp	Leu	Phe	Glu	Gln	Ala	Leu
580						585					590				
Asp	Gly	Cys	Pro	Pro	Lys	Tyr	Ala	Lys	Thr	Leu	Tyr	Leu	Leu	Tyr	Ala
595						600					605				
Gln	Leu	Glu	Glu	Glu	Trp	Gly	Leu	Ala	Arg	His	Ala	Met	Ala	Val	Tyr
610						615					620				
Glu	Arg	Ala	Thr	Arg	Ala	Val	Glu	Pro	Ala	Gln	Gln	Tyr	Asp	Met	Phe
625						630					635				
Asn	Ile	Tyr	Ile	Lys	Arg	Ala	Ala	Glu	Ile	Tyr	Gly	Val	Thr	His	Thr
645						650					655				
Arg	Gly	Ile	Tyr	Gln	Lys	Ala	Ile	Glu	Val	Leu	Ser	Asp	Glu	His	Ala
660						665					670				
Arg	Glu	Met	Cys	Leu	Arg	Phe	Ala	Asp	Met	Glu	Cys	Lys	Leu	Gly	Glu
675						680					685				
Ile	Asp	Arg	Ala	Arg	Ala	Ile	Tyr	Ser	Phe	Cys	Ser	Gln	Ile	Cys	Asp
690						695					700				
Pro	Arg	Thr	Thr	Gly	Ala	Phe	Trp	Gln	Thr	Trp	Lys	Asp	Phe	Glu	Val
705						710					715				
Arg	His	Gly	Asn	Glu	Asp	Thr	Ile	Arg	Glu	Met	Leu	Arg	Ile	Arg	Arg
725						730					735				
Ser	Val	Gln	Ala	Thr	Tyr	Asn	Thr	Gln	Val	Asn	Phe	Met	Ala	Ser	Gln
740						745					750				
Met	Leu	Lys	Val	Ser	Gly	Ser	Ala	Thr	Gly	Thr	Val	Ser	Asp	Leu	Ala
755						760					765				
Pro	Gly	Gln	Ser	Gly	Met	Asp	Asp	Met	Lys	Leu	Leu	Glu	Gln	Arg	Ala

```

      770              775              780
Glu Gln Leu Ala Ala Glu Ala Glu Arg Asp Gln Pro Leu Arg Ala Gln
785              790              795              800
Ser Lys Ile Leu Phe Val Arg Ser Asp Ala Ser Arg Glu Glu Leu Ala
      805              810              815
Glu Leu Ala Gln Gln Val Asn Pro Glu Glu Ile Gln Leu Gly Glu Asp
      820              825              830
Glu Asp Glu Asp Glu Met Asp Leu Glu Pro Asn Glu Val Arg Leu Glu
      835              840              845
Gln Gln Ser Val Pro Ala Ala Val Phe Gly Ser Leu Lys Glu Asp
      850              855              860

```

<210> 4211  
 <211> 456  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4211
ggggatcgct agccccagc ttctcagaac taaatatgaa agctcttgct cgtctacgct
60
tagttacaac agactccctg ggcctactgt aggggtcaag agcagatttc cagactctca
120
agctggaaaa gagacgctcc aactgcgac gacaaccaac acatgggaca agctgagaaa
180
gtgcactcag gacttcgcgt gatgtcacca ccatggcaat acttagatcc tgttgcttaa
240
gcataccatg tcgctgaaag agggaaagaa aatgaaagag cgtcctttaa aaagacgtaa
300
aattacactt tcactactac tggttcctat ccttgtgcag taaagtacaa cctggccagg
360
gtttaccagc tctacctgca actgagtcag aaaggcaaag tagtcagctt tgtccatgct
420
gtacggaatt tgctccacaa acccccttgc tctaga
456

```

<210> 4212  
 <211> 81  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4212
Met Leu Lys Gln Gln Asp Leu Ser Ile Ala Met Val Val Thr Ser Arg
1      5      10      15
Glu Val Leu Ser Ala Leu Ser Gln Leu Val Pro Cys Val Gly Cys Arg
20      25      30
Arg Ser Val Glu Arg Leu Phe Ser Ser Leu Arg Val Trp Lys Ser Ala
35      40      45
Leu Asp Pro Tyr Ser Arg Pro Arg Glu Ser Val Val Thr Lys Arg Arg
50      55      60
Arg Ala Arg Ala Phe Ile Phe Ser Ser Glu Lys Leu Gly Ala Ser Asp
65      70      75      80
Pro

```

<210> 4213  
 <211> 383  
 <212> DNA  
 <213> Homo sapiens

<400> 4213  
 nacgcgtacc tgtgccagcg cgcgcgcttc ttcgcagaga acgagggcct agacgactac  
 60  
 atggaggcac gcgagggcat gcacctcaag aacgtggact tccgtgagtt catggtggcc  
 120  
 ttcccggacc cggcccggcc gccctggtac gctgctcgt cggccttctg ggccgcggcg  
 180  
 ctgctcacgc tgtcgtggcc gctgcgagtg ctggccgagt accgcacggc ctacgcgcac  
 240  
 taccacgtgg agaagctggt tggcctggag ggcccgggct cggccagcag cgcaggcggg  
 300  
 ggctcagcc ccagcgatga gctgctgccc ccgctcacc accgctgcc gcgggtcaac  
 360  
 acagtagaca gcacggagct cgg  
 383

<210> 4214  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 4214  
 Xaa Ala Tyr Leu Cys Gln Arg Ala Arg Phe Phe Ala Glu Asn Glu Gly  
 1 5 10 15  
 Leu Asp Asp Tyr Met Glu Ala Arg Glu Gly Met His Leu Lys Asn Val  
 20 25 30  
 Asp Phe Arg Glu Phe Met Val Ala Phe Pro Asp Pro Ala Arg Pro Pro  
 35 40 45  
 Trp Tyr Ala Cys Ser Ser Ala Phe Trp Ala Ala Ala Leu Leu Thr Leu  
 50 55 60  
 Ser Trp Pro Leu Arg Val Leu Ala Glu Tyr Arg Thr Ala Tyr Ala His  
 65 70 75 80  
 Tyr His Val Glu Lys Leu Phe Gly Leu Glu Gly Pro Gly Ser Ala Ser  
 85 90 95  
 Ser Ala Gly Gly Gly Leu Ser Pro Ser Asp Glu Leu Leu Pro Pro Leu  
 100 105 110  
 Thr His Arg Leu Pro Arg Val Asn Thr Val Asp Ser Thr Glu Leu  
 115 120 125

<210> 4215  
 <211> 939  
 <212> DNA  
 <213> Homo sapiens

<400> 4215  
 nggtacctcg gctgaataaa aattcaaaaa aacagcaatg gacaggaact tgagaagacg  
 60  
 ctggaagaaa gcaaagaaat ggatatcaaa cgtaaagaaa ataaaggcaa tgatacccct  
 120

ttggccctag agagtacaaa cactgaaaag gagacaagcc tggaggaaac aaaaatcggg  
 180  
 gagatcctga tccagggctt gacagaagat atggtgactg ttttaatccg ggccctgcgtg  
 240  
 agcatgctgg gagtcctgt ggaccagat actttgcatg ccaccctttg tttctgittg  
 300  
 agggtcactc gggggcccca attagccatg atgtttgcag aactgaagaa taccgcgatg  
 360  
 atcttgaatt tgaccagag cttaggcttc aatgggttta cccccctggg cacccttctc  
 420  
 ttaagacaca tcattgagga cccctgtacc cttcgtcata ccattggaaa ggttggtcgc  
 480  
 tcagcagcta caagtggagc tggtagcact acctctgggtg ttgtgtcttg cagcctcggc  
 540  
 tctcgggaga tcaactacat ccttcgtgtc cttggggccag ccgcatgccg caatccagac  
 600  
 atattcacag aagtggccaa ctgctgtatc cgcctcgcgc ttctcgcgc tcgaggetca  
 660  
 ggaactgctt cagatgatga atttgagaat cttagaatta aaggccctaa tgctgtacag  
 720  
 ctggtgaaga ccacccttt gaagccctca cctctgcctg tcattccctga tactatcaag  
 780  
 gaagtgatct atgatatgct gaatgctctg gctgcatacc atgctccaga ggaagcagat  
 840  
 aaatctgatc ctaaacctgg gggtatgacc caagagggtg gccagctcct gcaagacatg  
 900  
 ggtgatgatg tataccagca gtaccgggtc cttacgcgt  
 939

&lt;210&gt; 4216

&lt;211&gt; 287

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4216

Met	Asp	Ile	Lys	Arg	Lys	Glu	Asn	Lys	Gly	Asn	Asp	Thr	Pro	Leu	Ala
1				5					10					15	
Leu	Glu	Ser	Thr	Asn	Thr	Glu	Lys	Glu	Thr	Ser	Leu	Glu	Glu	Thr	Lys
			20					25					30		
Ile	Gly	Glu	Ile	Leu	Ile	Gln	Gly	Leu	Thr	Glu	Asp	Met	Val	Thr	Val
		35				40					45				
Leu	Ile	Arg	Ala	Cys	Val	Ser	Met	Leu	Gly	Val	Pro	Val	Asp	Pro	Asp
	50				55					60					
Thr	Leu	His	Ala	Thr	Leu	Cys	Phe	Cys	Leu	Arg	Val	Thr	Arg	Gly	Pro
65					70				75					80	
Gln	Leu	Ala	Met	Met	Phe	Ala	Glu	Leu	Lys	Asn	Thr	Arg	Met	Ile	Leu
				85					90					95	
Asn	Leu	Thr	Gln	Ser	Ser	Gly	Phe	Asn	Gly	Phe	Thr	Pro	Leu	Val	Thr
			100					105					110		
Leu	Leu	Leu	Arg	His	Ile	Ile	Glu	Asp	Pro	Cys	Thr	Leu	Arg	His	Thr
		115					120					125			
Met	Glu	Lys	Val	Val	Arg	Ser	Ala	Ala	Thr	Ser	Gly	Ala	Gly	Ser	Thr
	130					135					140				
Thr	Ser	Gly	Val	Val	Ser	Gly	Ser	Leu	Gly	Ser	Arg	Glu	Ile	Asn	Tyr

```

145          150          155          160
Ile Leu Arg Val Leu Gly Pro Ala Ala Cys Arg Asn Pro Asp Ile Phe
          165          170          175
Thr Glu Val Ala Asn Cys Cys Ile Arg Ile Ala Leu Pro Ala Pro Arg
          180          185          190
Gly Ser Gly Thr Ala Ser Asp Asp Glu Phe Glu Asn Leu Arg Ile Lys
          195          200          205
Gly Pro Asn Ala Val Gln Leu Val Lys Thr Thr Pro Leu Lys Pro Ser
          210          215          220
Pro Leu Pro Val Ile Pro Asp Thr Ile Lys Glu Val Ile Tyr Asp Met
225          230          235          240
Leu Asn Ala Leu Ala Ala Tyr His Ala Pro Glu Glu Ala Asp Lys Ser
          245          250          255
Asp Pro Lys Pro Gly Val Met Thr Gln Glu Val Gly Gln Leu Leu Gln
          260          265          270Met Gly Asp Asp
Val Tyr Gln Gln Tyr Arg Ser Leu Thr Arg
          275          280          285

```

&lt;210&gt; 4217

&lt;211&gt; 619

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4217

```

acacacacac gcacacaaaa ctcagccaca ggctcaccag ggtctctctc aacatgcaca
60
catacacaca cacaccctc agtcataggc tcacaagagt ctctcttgtc tctctctcat
120
acatacacac acacacacaa ccagccacag gccacaaaag gtgtctctct ctttgtccct
180
gtctgtctct tcgcactcac acacacacat ctcagccaca ggcccaccag agtctgtctg
240
tctctttgtc tctctcactc tctctcacac acatacacct cagccacagg ccacaaaggg
300
tctctctcct tgtccctggc tcctctctct cgcacactcc cacacacaca catacagctc
360
agccacaggc ccacgagggt gtctctctct ctctctctct ctcacacaca cacacacaca
420
cacacacgcc tgtgcagctc cacagggggc tggggcagga gacagatctg aatacacata
480
ccaccctgtg ctgtgagtgg ccactcccat ccaacaactg agactttctg ttactggggc
540
aagggtttct gccaaactca cttcccttat aatgaatgaa ttatccctca gaagggtcca
600
cagtcctccc ctggcgcg
619

```

&lt;210&gt; 4218

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4218

Met His Thr Tyr Thr His Thr Pro Leu Ser His Arg Leu Thr Arg Val

```

      1           5           10           15
Ser Leu Val Ser Leu Ser Tyr Ile His Thr His Thr Gln Pro Ala Thr
      20           25           30
Gly Pro Gln Arg Cys Leu Ser Leu Cys Pro Cys Leu Leu Ser Arg Thr
      35           40           45
His Thr His Thr Ser Gln Pro Gln Ala His Gln Ser Leu Ser Val Ser
      50           55           60
Leu Ser Leu Ser Leu Ser Leu Thr His Ile His Leu Ser His Arg Pro
65      70      75      80
Thr Arg Val Ser Leu Leu Val Pro Gly Ser Ser Leu Ser His Thr Pro
      85           90           95
Thr His Thr His Thr Ala Gln Pro Gln Ala His Glu Gly Val Ser Leu
      100          105          110
Ser Leu Ser Leu Ser His Thr His Thr His Thr His Thr Pro Val Gln
      115          120          125
Leu His Arg Gly Leu Gly Gln Glu Thr Asp Leu Asn Thr His Thr Thr
      130          135          140
Leu Cys Cys Glu Trp Pro Leu Pro Ser Asn Asn
145          150          155

```

&lt;210&gt; 4219

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4219

```

ngcggccgcg cacctgctcc cgtcgccta cagcaagatc acgccccgc ggaggcccca
60
ccgctgcagc agcggccacg gcagcgacaa cagcagcgtg ctgagcgggg agctcccgcc
120
ggccatgggg aagacggccc tgttctacca cagcggcggc agcagcggct acgagagcgt
180
gatgcgggac agcgaggcca ccggcagcgc gtcctcggcg caggactcca cgagcgagaa
240
cagcagctcc gtgggcggca ggtgccggag cctcaagacc ccgaagaaac gctccaatcc
300
aggttctcag agacggaggc ttatcccagc actatccctg gacacctctt cccctgtgag
360
aaaaccccc aacagcacag gcgtccgctg ggtggatggn nccccttgcg gagcagcccg
420
aggggccttg gggaaacctt gagattaaag tctnatgaaa tcgatgacgt ggagcgcctg
480
cagcggcgac gagggggtgc cagcaaggag gccatgtgct tcaatgcaaa gctgaagatt
540
ctggaacacc gccagcagag gatcgccgag gtccgcgcga agtacgagtg gctgatgaag
600
gagctggagg cgaccaaaca gtatctgatg ctggatccca acaagtggct cagtgaattt
660
gacttggagc aggtttggga gctggattcc ctggagtacc tggaggcact ggagtgtgtg
720
acggagcgcc tggagagccg tgtcaacttc tgcaaggccc atctcatgat gctc
774

```

&lt;210&gt; 4220



<211> 258  
 <212> PRT  
 <213> Homo sapiens

<400> 4220  
 Xaa Gly Arg Ala Pro Ala Pro Val Ala Leu Gln Gln Asp His Ala Pro  
 1 5 10 15  
 Ala Glu Ala Pro Pro Leu Gln Gln Arg Pro Arg Gln Arg Gln Gln Gln  
 20 25 30  
 Arg Ala Glu Arg Gly Ala Pro Ala Gly His Gly Glu Asp Gly Pro Val  
 35 40 45  
 Leu Pro Gln Arg Arg Gln Gln Arg Leu Arg Glu Arg Asp Ala Gly Gln  
 50 55 60  
 Arg Gly His Arg Gln Arg Val Leu Gly Ala Gly Leu His Glu Arg Glu  
 65 70 75 80  
 Gln Gln Leu Arg Gly Arg Gln Val Pro Glu Pro Gln Asp Pro Glu Glu  
 85 90 95  
 Thr Leu Gln Ser Arg Phe Ser Glu Thr Glu Ala Tyr Pro Ser Thr Ile  
 100 105 110  
 Pro Gly His Leu Phe Pro Cys Glu Lys Thr Pro Gln Gln His Arg Arg  
 115 120 125  
 Pro Leu Gly Gly Trp Xaa Pro Leu Arg Ser Ser Pro Arg Gly Leu Gly  
 130 135 140  
 Glu Pro Leu Arg Leu Lys Ser Xaa Glu Ile Asp Asp Val Glu Arg Leu  
 145 150 155 160  
 Gln Arg Arg Arg Gly Gly Ala Ser Lys Glu Ala Met Cys Phe Asn Ala  
 165 170 175  
 Lys Leu Lys Ile Leu Glu His Arg Gln Gln Arg Ile Ala Glu Val Arg  
 180 185 190  
 Ala Lys Tyr Glu Trp Leu Met Lys Glu Leu Glu Ala Thr Lys Gln Tyr  
 195 200 205  
 Leu Met Leu Asp Pro Asn Lys Trp Leu Ser Glu Phe Asp Leu Glu Gln  
 210 215 220  
 Val Trp Glu Leu Asp Ser Leu Glu Tyr Leu Glu Ala Leu Glu Cys Val  
 225 230 235 240  
 Thr Glu Arg Leu Glu Ser Arg Val Asn Phe Cys Lys Ala His Leu Met  
 245 250 255  
 Met Leu

<210> 4221  
 <211> 789  
 <212> DNA  
 <213> Homo sapiens

<400> 4221  
 aatgtgaaga ggattaaaga ataaagaaaa aacaaaaaag tcttatacta aaataagaaa  
 60  
 tcagcccat cttggcacag ttctcatgca gaatattgca cccagtgtga actaacgcta  
 120  
 gaagcttcaa actgtataaa tttaaagtga ttgcatatt ataaaaataa agataaacat  
 180  
 atacatattt tacactagtt atggaacagc aatgaacgtc agtcgatccc tctttcacat  
 240

ttaacagaac tgaaatctga gtgctctaaa tactgccacc tgtactgtaa ctatggctta  
 300  
 tatgtgcacg gaaaacaaaa tccctgagaa gccattcgac tttttttttt tttcttttct  
 360  
 tcaagtagcg cgctccttgg aggatcacag ttctgaggtt caggttgtaa aacatttgct  
 420  
 ccatgttctc gtccatgctt cccccaccca cccctcccc acctcttccc cagtcgtcca  
 480  
 aaaagcacc tgcaagcacg cgttgctcact caagttcaca gaacacgctg gggtgagtgc  
 540  
 agaggggtctg ccaggtgcaa aagatgggtcc aggtgttcag atgctctctt ttctccatgg  
 600  
 aaattccaca gccacaaacg tcaactgggtt ctgtgctttt caccaacatt cttcccttaa  
 660  
 aaattgggtgc tcctaaagtc acagtttggg tacagtataaa atgatggcat aaggaaaaga  
 720  
 agcactatct tttccactta attttccaag aaagtatgaa gatacttgga acaggggctg  
 780  
 atcacagtc  
 789

&lt;210&gt; 4222

&lt;211&gt; 127

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4222

Met	Ala	Tyr	Met	Cys	Thr	Glu	Asn	Lys	Ile	Pro	Glu	Lys	Pro	Phe	Asp
1				5					10					15	
Phe	Phe	Phe	Phe	Ser	Phe	Leu	Gln	Val	Ala	Arg	Ser	Leu	Glu	Asp	His
			20					25					30		
Ser	Ser	Glu	Val	Gln	Val	Val	Lys	His	Leu	Leu	His	Val	Leu	Val	His
			35				40					45			
Ala	Ser	Pro	His	His	Pro	Leu	Pro	Thr	Ser	Ser	Pro	Val	Val	Gln	Lys
			50			55					60				
Ala	Pro	Cys	Lys	His	Ala	Leu	Ser	Leu	Lys	Phe	Thr	Glu	His	Ala	Gly
65					70					75					80
Val	Ser	Ala	Glu	Gly	Leu	Pro	Gly	Ala	Lys	Asp	Gly	Pro	Gly	Val	Gln
				85					90					95	
Met	Leu	Ser	Phe	Leu	His	Gly	Asn	Ser	Thr	Ala	Thr	Asn	Val	Thr	Gly
			100					105					110		
Phe	Cys	Ala	Phe	His	Gln	His	Ser	Ser	Leu	Lys	Asn	Trp	Cys	Ser	
			115				120					125			

&lt;210&gt; 4223

&lt;211&gt; 852

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4223

atcctggacc agggctacta ctccggagcga gacacaagca acgtgggtacg gcaagtcctg  
 60  
 gaggcctgg cctatttgca ctcaactcaag atcgtgcaca ggaatctcaa gctgggagaac  
 120

ctggtttact acaaccggct gaagaactcg aagattgtca tcagtgactt ccatctggct  
 180  
 aagctagaaa atggcctcat caaggagccc tgtgggaccc ccgaagattt tgcccccaa  
 240  
 ggggaaggcc ggcagcggta tggacgcctt gtggactgct gggccattgg agtcatcatg  
 300  
 tacatcctgc tttcaggcaa tccacctttc tatgaggagg tggaagaaga tgattatgag  
 360  
 aaccatgata agaatctctt ccgcaagatc ctggctggtg actatgagtt tgactctcca  
 420  
 tattgggatg atatttcgca ggcagccaaa gacctgggtca caaggctgat ggaggtggag  
 480  
 caagaccagc ggatcactgc agaagaggcc atctcccatg agtggatttc tggcaatgct  
 540  
 gcttctgata agaacatcaa ggatgggtgtc tgtgcccaga ttgaaaagaa ctttgccagg  
 600  
 gccaaagtga agaaggctgt ccgagtgacc accctcatga aacggctccg ggcaccagag  
 660  
 cagtccagca cggctgcagc ccagtcggcc tcagccacag aactgccac ccccggggct  
 720  
 gcagaccgta gtgccacccc agccacagat ggaagtgcc acccagccac tgatggcagt  
 780  
 gtcaccccag ccaccgatgg aagcatcact ccagccattg atgggagtgt caccacagcc  
 840  
 actgacagga gc  
 852

&lt;210&gt; 4224

&lt;211&gt; 284

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4224

Ile	Leu	Asp	Gln	Gly	Tyr	Tyr	Ser	Glu	Arg	Asp	Thr	Ser	Asn	Val	Val
1				5				10					15		
Arg	Gln	Val	Leu	Glu	Ala	Val	Ala	Tyr	Leu	His	Ser	Leu	Lys	Ile	Val
			20					25					30		
His	Arg	Asn	Leu	Lys	Leu	Glu	Asn	Leu	Val	Tyr	Tyr	Asn	Arg	Leu	Lys
		35					40					45			
Asn	Ser	Lys	Ile	Val	Ile	Ser	Asp	Phe	His	Leu	Ala	Lys	Leu	Glu	Asn
	50					55				60					
Gly	Leu	Ile	Lys	Glu	Pro	Cys	Gly	Thr	Pro	Glu	Asp	Phe	Ala	Pro	Gln
65				70						75				80	
Gly	Glu	Gly	Arg	Gln	Arg	Tyr	Gly	Arg	Pro	Val	Asp	Cys	Trp	Ala	Ile
			85					90						95	
Gly	Val	Ile	Met	Tyr	Ile	Leu	Leu	Ser	Gly	Asn	Pro	Pro	Phe	Tyr	Glu
		100						105					110		
Glu	Val	Glu	Glu	Asp	Asp	Tyr	Glu	Asn	His	Asp	Lys	Asn	Leu	Phe	Arg
		115					120					125			
Lys	Ile	Leu	Ala	Gly	Asp	Tyr	Glu	Phe	Asp	Ser	Pro	Tyr	Trp	Asp	Asp
	130					135					140				
Ile	Ser	Gln	Ala	Ala	Lys	Asp	Leu	Val	Thr	Arg	Leu	Met	Glu	Val	Glu
145					150					155				160	
Gln	Asp	Gln	Arg	Ile	Thr	Ala	Glu	Glu	Ala	Ile	Ser	His	Glu	Trp	Ile

```

                165                170                175
Ser Gly Asn Ala Ala Ser Asp Lys Asn Ile Lys Asp Gly Val Cys Ala
                180                185                190
Gln Ile Glu Lys Asn Phe Ala Arg Ala Lys Trp Lys Lys Ala Val Arg
                195                200                205
Val Thr Thr Leu Met Lys Arg Leu Arg Ala Pro Glu Gln Ser Ser Thr
                210                215                220
Ala Ala Ala Gln Ser Ala Ser Ala Thr Asp Thr Ala Thr Pro Gly Ala
225                230                235                240
Ala Asp Arg Ser Ala Thr Pro Ala Thr Asp Gly Ser Ala Thr Pro Ala
                245                250                255
Thr Asp Gly Ser Val Thr Pro Ala Thr Asp Gly Ser Ile Thr Pro Ala
                260                265                270
Ile Asp Gly Ser Val Thr Pro Ala Thr Asp Arg Ser
                275                280

```

&lt;210&gt; 4225

&lt;211&gt; 470

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4225

```

nntgtacaag aaagtgagcc agtcacgctc aatattcaag tgatggatgc aaatgataac
60
acgccaacct tccctgaaat atcctatgat gtgtatgttt atacagacat gagacctggg
120
gacaggggtcc tacagttaac tgcagtcgac gcagacgaag ggtcaaattgg ggagatcaca
180
tatgaaatcc ttgttggggc tcagggagac ttcatcatca ataaaacaac agggcttattc
240
accatcgctc caggggtgga aatgatagtc gggcggactt acgcactccc ggtccaagca
300
gcggataatg ctctcctgc aaagcaaagg actcccatct gcactgtgta tattgaagtg
360
cttccaccaa ataatcaaag cctcctcgc ttccacagc tgatgtatag ctttgaaatt
420
agtgaagcca tgagggttgg tgctgtttta ttaaattctac aggcaactga
470

```

&lt;210&gt; 4226

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4226

```

Xaa Val Gln Glu Ser Glu Pro Val Ile Val Asn Ile Gln Val Met Asp
1                5                10                15
Ala Asn Asp Asn Thr Pro Thr Phe Pro Glu Ile Ser Tyr Asp Val Tyr
20                25                30
Val Tyr Thr Asp Met Arg Pro Gly Asp Arg Val Leu Gln Leu Thr Ala
35                40                45
Val Asp Ala Asp Glu Gly Ser Asn Gly Glu Ile Thr Tyr Glu Ile Leu
50                55                60
Val Gly Ala Gln Gly Asp Phe Ile Ile Asn Lys Thr Thr Gly Leu Ile

```

65					70					75					80
Thr	Ile	Ala	Pro	Gly	Val	Glu	Met	Ile	Val	Gly	Arg	Thr	Tyr	Ala	Leu
				85					90					95	
Pro	Val	Gln	Ala	Ala	Asp	Asn	Ala	Pro	Pro	Ala	Lys	Gln	Arg	Thr	Pro
			100					105					110		
Ile	Cys	Thr	Val	Tyr	Ile	Glu	Val	Leu	Pro	Pro	Asn	Asn	Gln	Ser	Pro
		115					120					125			
Pro	Arg	Phe	Pro	Gln	Leu	Met	Tyr	Ser	Leu	Glu	Ile	Ser	Glu	Ala	Met
	130					135					140				
Arg	Val	Gly	Ala	Val	Leu	Leu	Asn	Leu	Gln	Ala	Thr				
145					150					155					

<210> 4227  
 <211> 1199  
 <212> DNA  
 <213> Homo sapiens

<400> 4227  
 nnaagcttat ggccagtgtt aatttggtat ttcttaaata actttccctt tcatttttaa  
 60  
 attataaatt taactttctaa catgttttat ggttaaaatt gtactttttt cctttagcga  
 120  
 cattcaaagt catcacaatc actttgtgaa attgttcgcc tgagcagaga ccagatgtta  
 180  
 caaattcaga acagtacaga gcccgacccc ctgcttgcca ctctagaaaa gcaagaaatt  
 240  
 atagagcagc ttctatcaaa ttttttccac aaggagaaaa atgagtcagc catagtcagt  
 300  
 gcaatccaga tattgctgac tttacttgag acacgacgac caacatttga aggccatata  
 360  
 gagatctgcc caccaggcat gagccattca gcttggtcag taaacaagag tgttctagaa  
 420  
 gccatcagag gaagacttgg atcttttcat gaactcctgc tggagccacc caagaaaagt  
 480  
 gtgatgaaga ccacatgggg tgtgctggat cctcctgtgg ggaatacccg gttgaatgtc  
 540  
 attaggttga tatccagcct gtttcaaacc aataccagca gtataaatgg ggaccttatg  
 600  
 gagctgaata gcattggagt catattgaac atgttcttca agtatacatg gaataacttt  
 660  
 ttgcatacac aagtggaaat ttgtattgca ctgattcttg caagtccttt tgaaaacaca  
 720  
 gaaaatgcc caattaccga tcaagactcc actggtgata atttgttatt aaaacatctt  
 780  
 ttccaaaaat gtcaattaat agaacgaata cttgaagcct gggaaatgaa tgagaagaaa  
 840  
 caggctgagg gaggaagacg gcatgggttac atgggacacc taacgaggat agctaactgt  
 900  
 atcgtgcaca gcactgacaa gggccccaac agtgcattag tgcagcagct tatcaaagg  
 960  
 aagttatttg tgaaatttga attacatctt tgttgggttg caggaaggat ttaagggtca  
 1020  
 agtagaaatg catgtagcat ttttaatagt gatttgtggg acttctttat atttggcaaa  
 1080

ttatgtatatt gaatgagggt cttgagaatg tgtttgaaca ggggtgtttt ttgggttgta  
1140  
ttttatgttc atgtagttac agaccattcc ataagcattg gcaggcttgg ctggattca  
1199

<210> 4228

<211> 298

<212> PRT

<213> Homo sapiens

<400> 4228

Arg	His	Ser	Asn	Ala	Ser	Gln	Ser	Leu	Cys	Glu	Ile	Val	Arg	Leu	Ser
1				5					10					15	
Arg	Asp	Gln	Met	Leu	Gln	Ile	Gln	Asn	Ser	Thr	Glu	Pro	Asp	Pro	Leu
			20					25					30		
Leu	Ala	Thr	Leu	Glu	Lys	Gln	Glu	Ile	Ile	Glu	Gln	Leu	Leu	Ser	Asn
			35				40					45			
Ile	Phe	His	Lys	Glu	Lys	Asn	Glu	Ser	Ala	Ile	Val	Ser	Ala	Ile	Gln
	50					55					60				
Ile	Leu	Leu	Thr	Leu	Leu	Glu	Thr	Arg	Arg	Pro	Thr	Phe	Glu	Gly	His
65					70					75				80	
Ile	Glu	Ile	Cys	Pro	Pro	Gly	Met	Ser	His	Ser	Ala	Cys	Ser	Val	Asn
			85					90					95		
Lys	Ser	Val	Leu	Glu	Ala	Ile	Arg	Gly	Arg	Leu	Gly	Ser	Phe	His	Glu
			100					105					110		
Leu	Leu	Leu	Glu	Pro	Pro	Lys	Lys	Ser	Val	Met	Lys	Thr	Thr	Trp	Gly
			115				120					125			
Val	Leu	Asp	Pro	Pro	Val	Gly	Asn	Thr	Arg	Leu	Asn	Val	Ile	Arg	Leu
			130				135				140				
Ile	Ser	Ser	Leu	Leu	Gln	Thr	Asn	Thr	Ser	Ser	Ile	Asn	Gly	Asp	Leu
145					150					155				160	
Met	Glu	Leu	Asn	Ser	Ile	Gly	Val	Ile	Leu	Asn	Met	Phe	Phe	Lys	Tyr
			165					170						175	
Thr	Trp	Asn	Asn	Phe	Leu	His	Thr	Gln	Val	Glu	Ile	Cys	Ile	Ala	Leu
			180					185					190		
Ile	Leu	Ala	Ser	Pro	Phe	Glu	Asn	Thr	Glu	Asn	Ala	Thr	Ile	Thr	Asp
			195				200					205			
Gln	Asp	Ser	Thr	Gly	Asp	Asn	Leu	Leu	Leu	Lys	His	Leu	Phe	Gln	Lys
			210			215					220				
Cys	Gln	Leu	Ile	Glu	Arg	Ile	Leu	Glu	Ala	Trp	Glu	Met	Asn	Glu	Lys
225					230					235				240	
Lys	Gln	Ala	Glu	Gly	Gly	Arg	Arg	His	Gly	Tyr	Met	Gly	His	Leu	Thr
			245					250						255	
Arg	Ile	Ala	Asn	Cys	Ile	Val	His	Ser	Thr	Asp	Lys	Gly	Pro	Asn	Ser
			260					265					270		
Ala	Leu	Val	Gln	Gln	Leu	Ile	Lys	Gly	Lys	Leu	Phe	Val	Lys	Phe	Glu
			275				280					285			
Leu	His	Phe	Cys	Trp	Val	Ala	Gly	Arg	Ile						
			290				295								

<210> 4229

<211> 1612

<212> DNA

<213> Homo sapiens

&lt;400&gt; 4229

ncgggggtct ccatacctgga ccaggacctg gactacctgt ccgaaggcct cgaaggccga  
60  
tcccaaagcc ccgtggccct gctctttgat gcccttctac gccagacac agactttggg  
120  
ggaaacatga agtcggtcct cacctggaag caccggaagg agcacgccat cccccacgtg  
180  
gttctggggc ggaacctccc cgggggagcc tggcactcca tcgaaggctc catggtgatc  
240  
ctgagccaag gccagtggat ggggctccc gacctggagg tcaaggactg gatgcagaag  
300  
aagcgaagag gtcttcgcaa cagccggggc actgccgggg acatcgccca ctactacagg  
360  
gactacgtgg tcaagaaggg tctggggcat aactttgtgt ccggtgctgt agtcacagcc  
420  
gtggagtggg ggacccccga tcccagcagc tgtggggccc aggactccag cccctcttc  
480  
caggtgagcg gcttcctgac caggaaccag gccagcagc ccttctcgt gtggggccgc  
540  
aacgtggtcc tcgccacagg cacgttcgac agcccgggcc ggctgggcat ccccggggag  
600  
gccctgcct tcataccacca tgagctgtct gccctggagg ccgccacaag ggtgggtgcg  
660  
tgacccccgg cctcagaccc tgtcctcatc attggcgcg ggctgtcagc ggccgacgcc  
720  
gtcctctacg ccgcccacta caacatccc gtgatccatg ccttcgcgc ggccgtggac  
780  
gacctggcc tgggtgtcaa ccagctgcc aagatgctgt accccgagta ccacaagggtg  
840  
caccagatga tgcgggagca gtccatcctg tcgccagcc cctatgaggg ttaccgcagc  
900  
ctccccaggc accagctgct gtgcttcaa gaagactgcc aggcctgtgt ccaggacctc  
960  
gaggtgtcg agaagggtgt tgggggtctc ctggtgctgg tctcatcgg ctccccccc  
1020  
gacctctcct tcctgcctgg ggcaggggct gactttgcag tggatcctga ccagccgctg  
1080  
agcgccaaga ggaaccccat tgacgtggac cccttcacct accagagcac ccgccaggag  
1140  
ggcctgtacg ccatggggcc gctggccggg gacaacttcg tgaggtttgt gcaggggggc  
1200  
gccttggtg tggccagctc cctgctaagg aaggagacca ggaagccacc ctaacactcg  
1260  
gccagaccg ctggctccca ggccctgaga ggacagagat gaccacatcc ctgctggatg  
1320  
caggaccgt ccaaagatgc cccggggagg ggtgtcagcc cacgttgctg gcctttggg  
1380  
tcaagaggag tagggatccc aggtgcct ggacttagac cagtgtctga ggttggactt  
1440  
agaccagtgt gtgaggtggt aacagcgccc gcagcagggg gttggcctag acctgggatt  
1500  
tgtgggaaa gctgctggtg tgaccagctg agcaccagc caggagacct gcagccctgc  
1560

gccttccaga agcagggtccc aaataaagcc agtgcccacc tgaaaaaaaa aa  
1612

<210> 4230

<211> 417

<212> PRT

<213> Homo sapiens

<400> 4230

Xaa Gly Val Ser Ile Leu Asp Gln Asp Leu Asp Tyr Leu Ser Glu Gly  
1 5 10 15  
Leu Glu Gly Arg Ser Gln Ser Pro Val Ala Leu Leu Phe Asp Ala Leu  
20 25 30  
Leu Arg Pro Asp Thr Asp Phe Gly Gly Asn Met Lys Ser Val Leu Thr  
35 40 45  
Trp Lys His Arg Lys Glu His Ala Ile Pro His Val Val Leu Gly Arg  
50 55 60  
Asn Leu Pro Gly Gly Ala Trp His Ser Ile Glu Gly Ser Met Val Ile  
65 70 75 80  
Leu Ser Gln Gly Gln Trp Met Gly Leu Pro Asp Leu Glu Val Lys Asp  
85 90 95  
Trp Met Gln Lys Lys Arg Arg Gly Leu Arg Asn Ser Arg Ala Thr Ala  
100 105 110  
Gly Asp Ile Ala His Tyr Tyr Arg Asp Tyr Val Val Lys Lys Gly Leu  
115 120 125  
Gly His Asn Phe Val Ser Gly Ala Val Val Thr Ala Val Glu Trp Gly  
130 135 140  
Thr Pro Asp Pro Ser Ser Cys Gly Ala Gln Asp Ser Ser Pro Leu Phe  
145 150 155 160  
Gln Val Ser Gly Phe Leu Thr Arg Asn Gln Ala Gln Gln Pro Phe Ser  
165 170 175  
Leu Trp Ala Arg Asn Val Val Leu Ala Thr Gly Thr Phe Asp Ser Pro  
180 185 190  
Ala Arg Leu Gly Ile Pro Gly Glu Ala Leu Pro Phe Ile His His Glu  
195 200 205  
Leu Ser Ala Leu Glu Ala Ala Thr Arg Val Gly Ala Val Thr Pro Ala  
210 215 220  
Ser Asp Pro Val Leu Ile Ile Gly Ala Gly Leu Ser Ala Ala Asp Ala  
225 230 235 240  
Val Leu Tyr Ala Arg His Tyr Asn Ile Pro Val Ile His Ala Phe Arg  
245 250 255  
Arg Ala Val Asp Asp Pro Gly Leu Val Phe Asn Gln Leu Pro Lys Met  
260 265 270  
Leu Tyr Pro Glu Tyr His Lys Val His Gln Met Met Arg Glu Gln Ser  
275 280 285  
Ile Leu Ser Pro Ser Pro Tyr Glu Gly Tyr Arg Ser Leu Pro Arg His  
290 295 300  
Gln Leu Leu Cys Phe Lys Glu Asp Cys Gln Ala Val Phe Gln Asp Leu  
305 310 315 320  
Glu Gly Val Glu Lys Val Phe Gly Val Ser Leu Val Leu Val Leu Ile  
325 330 335  
Gly Ser His Pro Asp Leu Ser Phe Leu Pro Gly Ala Gly Ala Asp Phe  
340 345 350  
Ala Val Asp Pro Asp Gln Pro Leu Ser Ala Lys Arg Asn Pro Ile Asp



```
<210> 4231
<211> 1588
<212> DNA
<213> Homo sapiens
```

```

<400> 4231
ncgactacag acacagacgg tgccgccgag acttgtgtct cagtacagtg tcagaagcaa
60
attaaagaac ttcgagatca aattgtatct gttcaggagg aaaagaagat tttagccatt
120
gagctggaaa atctcaagag caaactcgtg gaagtaattg aagaagtaaa taaagttaaa
180
caagaaaaga ctgtttttaa ttcagaagtt cttgaacaga gaaaagtctt agaaaaatgc
240
aatagagtgt ccatgttagc tgtagaagag tatgaggaga tgcaagtaaa cctggagctg
300
gagaaggacc ttcgaaagaa agcagagtca tttgcccaag agatgttcct tgagccaaac
360
cagggtaaaa agacaaagcc cccctttggg cggcagagtt ccatccttga tcagcagtta
420
gcttttagacg aaaatgcaa actcacccag caacttgaag aagagagaat tcagcatcaa
480
caaaagggtca aagaattaga agagcaacta gaaaatgaaa cactccacaa agaaatacac
540
aacctcaaac agcaactgga gcttctagag gaagataaaa aggaattgga attgaaatat
600
cagaattctg aagagaaagc cagaaattta aagcactctg ttgatgaact ccagaaacga
660
gtgaaccagt ctgagaattc agtacctcca ccacctctc ctccaccacc acttccccct
720
ccacctccca atcctatccg atccctcatg tccatgatcc ggaaacgac ccaccccagt
780
ggcagtgggtg ctaagaaaga aaaggcaact caaccagaaa caactgaaga agtcacagat
840
ctaaagaggc aagcagttga agagatgatg gatagaatta aaaagggagt tcattcttaga
900
cccgttaatc agacagccag accgaagaca aagccagaat cttcgaaagg ctgcgaaagt
960
gcagtggatg aactaaaagg aatactgggg acacttaaca aatccactag ttcaagaagc
1020
ttaaaatccc ttgaccctga aaacagtgaa actgagttag aaaggatttt gcgtcgcaga
1080
aaggtgacag cagaagcaga tagcagtagt ccaactggga tattagccac ctcagagtcc
1140

```

aaatccatgc cagtgttggg ttctgtatcc agtgtaacaa aaacagcctt gaacaagaaa  
 1200  
 actctggagg cagaattcaa cagcccgctc cccccaacac ctgagccagg tgaaggggccc  
 1260  
 cgtaaatggg aaggatgcac aagttccaag gttacgtttc agtaagtaac gatgctcttt  
 1320  
 actaagtggg gtatagaaga atctgtaatg actaacttgt gtgtttcttt gatttgtttc  
 1380  
 ctttagagag attttgattg gctcgccggg aaattctctt cttcttttca tttgatgggc  
 1440  
 cagctttttc attctagggt cctagataag agatctaatt aagatccaaa gcaagtagca  
 1500  
 tgtacaaaga gaattacttc ccctaaactg gtttggtaat cagggtctta tacacaaata  
 1560  
 attgatctgg atgatacaga ctctgcag  
 1588

&lt;210&gt; 4232

&lt;211&gt; 434

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4232

Xaa	Thr	Thr	Asp	Thr	Asp	Gly	Ala	Ala	Glu	Thr	Cys	Val	Ser	Val	Gln
1				5					10					15	
Cys	Gln	Lys	Gln	Ile	Lys	Glu	Leu	Arg	Asp	Gln	Ile	Val	Ser	Val	Gln
			20					25				30			
Glu	Glu	Lys	Lys	Ile	Leu	Ala	Ile	Glu	Leu	Glu	Asn	Leu	Lys	Ser	Lys
		35				40					45				
Leu	Val	Glu	Val	Ile	Glu	Glu	Val	Asn	Lys	Val	Lys	Gln	Glu	Lys	Thr
	50				55					60					
Val	Leu	Asn	Ser	Glu	Val	Leu	Glu	Gln	Arg	Lys	Val	Leu	Glu	Lys	Cys
65				70				75						80	
Asn	Arg	Val	Ser	Met	Leu	Ala	Val	Glu	Glu	Tyr	Glu	Glu	Met	Gln	Val
			85					90						95	
Asn	Leu	Glu	Leu	Glu	Lys	Asp	Leu	Arg	Lys	Lys	Ala	Glu	Ser	Phe	Ala
		100					105						110		
Gln	Glu	Met	Phe	Leu	Glu	Pro	Asn	Gln	Gly	Lys	Lys	Thr	Lys	Pro	Pro
	115					120						125			
Phe	Gly	Arg	Gln	Ser	Ser	Ile	Leu	Asp	Gln	Gln	Leu	Ala	Leu	Asp	Glu
	130					135					140				
Asn	Ala	Lys	Leu	Thr	Gln	Gln	Leu	Glu	Glu	Glu	Arg	Ile	Gln	His	Gln
145				150					155					160	
Gln	Lys	Val	Lys	Glu	Leu	Glu	Glu	Gln	Leu	Glu	Asn	Glu	Thr	Leu	His
			165					170						175	
Lys	Glu	Ile	His	Asn	Leu	Lys	Gln	Gln	Leu	Glu	Leu	Leu	Glu	Glu	Asp
		180					185						190		
Lys	Lys	Glu	Leu	Glu	Leu	Lys	Tyr	Gln	Asn	Ser	Glu	Glu	Lys	Ala	Arg
	195					200						205			
Asn	Leu	Lys	His	Ser	Val	Asp	Glu	Leu	Gln	Lys	Arg	Val	Asn	Gln	Ser
	210					215						220			
Glu	Asn	Ser	Val	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Leu	Pro	Pro
225				230						235				240	
Pro	Pro	Pro	Asn	Pro	Ile	Arg	Ser	Leu	Met	Ser	Met	Ile	Arg	Lys	Arg

				245					250					255					
Ser	His	Pro	Ser	Gly	Ser	Gly	Ala	Lys	Lys	Glu	Lys	Ala	Thr	Gln	Pro				
			260					265					270						
Glu	Thr	Thr	Glu	Glu	Val	Thr	Asp	Leu	Lys	Arg	Gln	Ala	Val	Glu	Glu				
		275					280					285							
Met	Met	Asp	Arg	Ile	Lys	Lys	Gly	Val	His	Leu	Arg	Pro	Val	Asn	Gln				
	290				295						300								
Thr	Ala	Arg	Pro	Lys	Thr	Lys	Pro	Glu	Ser	Ser	Lys	Gly	Cys	Glu	Ser				
305				310						315				320					
Ala	Val	Asp	Glu	Leu	Lys	Gly	Ile	Leu	Gly	Thr	Leu	Asn	Lys	Ser	Thr				
			325					330					335						
Ser	Ser	Arg	Ser	Leu	Lys	Ser	Leu	Asp	Pro	Glu	Asn	Ser	Glu	Thr	Glu				
			340					345					350						
Leu	Glu	Arg	Ile	Leu	Arg	Arg	Arg	Lys	Val	Thr	Ala	Glu	Ala	Asp	Ser				
		355				360						365							
Ser	Ser	Pro	Thr	Gly	Ile	Leu	Ala	Thr	Ser	Glu	Ser	Lys	Ser	Met	Pro				
	370				375						380								
Val	Leu	Gly	Ser	Val	Ser	Ser	Val	Thr	Lys	Thr	Ala	Leu	Asn	Lys	Lys				
385				390						395				400					
Thr	Leu	Glu	Ala	Glu	Phe	Asn	Ser	Pro	Ser	Pro	Pro	Thr	Pro	Glu	Pro				
			405					410					415						
Gly	Glu	Gly	Pro	Arg	Lys	Leu	Glu	Gly	Cys	Thr	Ser	Ser	Lys	Val	Thr				
			420					425					430						
Phe	Gln																		

&lt;210&gt; 4233

&lt;211&gt; 2827

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4233

```

ggatccctga aaggagacca tatactgtac catttgatac tcatttgggg cattatatatt
60
atatcccatc aagacaagat tccaggagg ggaatcactt gcaaggtcca cacaagtccg
120
cctatgtact ctctggatcg aatatttgct ggatttcgaa cacgaagtca gatgctgttg
180
ggtcacatag aagaacaaga taaggtcctc cactgccaat tttctgataa cagtgatgat
240
gaagaatcag aaggccaaga gaaatctgga actagatgta gaagtcgttc atggattcag
300
aagccagact ctgtttgttc cttgttgtaa ttgagtgata ctcaggatga aacacaaaaa
360
tcagatttgg agaatgaaga tttaaagatt gattgtctcc aggagagtca agaattgaat
420
ttgcaaaaat taaagaattc agaacgcata cttactgaag ccaaacaaaa aatgagagaa
480
cttacagtta acatcaagat gaaggaagat ctgattaaag aattaataaa aacaggtaac
540
gatgccaaat ctgtaagcaa gcagtatact ttgaaagtaa caaagctaga gcatgatgca
600
gaacaggcaa aagtcgaact aactgaaaca caaaagcagc tacaggagct ggaaaacaaa
660

```

gatctttctg atgttgcaat gaaggtaaaa ttacagaaag agtttcgtaa aaaggtggat  
720  
gctgcaaagc tgagagttca ggtcttacag aagaagcaac aagatagtaa gaaactggca  
780  
tcactgtcaa tccaaaatga gaaacgtgct aatgaactag agcagagtgt agatcacatg  
840  
aaatatcaaa agatacagct acaaagaaaa ctacgagaag aaaatgaaaa aaggaagcaa  
900  
ctggatgcag taattaagcg ggaccagcaa aaaatcaaag taatacaatt aaaaacagga  
960  
caggaagaag gtctaaaacc gaaagctgag gaccttgatg catgtaactt gaaaaggaga  
1020  
aaaggttcgt ttggaagtat agaccatctc cagaaattgg atgagcaaaa gaaatggtta  
1080  
gatgaagaag tagagaaagt tctgaaccaa cgccaagaat tagaggagct ggaagcagac  
1140  
ttaaagaaac gggaggccat agtttctaag aaggaggctc tgttacagga gaagagtcac  
1200  
ctggaaaata agaaattgag atctagtcag gccttaaaca cagatagttt gaaaatatca  
1260  
actcgctga acttactgga acaagagttg tctgaaaaga atgtgcagct ccagaccagt  
1320  
acagctgagg agaaaacaaa gatttcagaa caagttgaag tcctccagaa agaaaaggat  
1380  
cagctccaga aacgcagaca cgatgtggat gaaaaactta aaaatggtag agtgttatca  
1440  
cctgaagaag aacatgttct tttccaactt gaagaaggga tagaagcttt ggaagctgca  
1500  
attgaataca ggaatgaaag tatccagaat cgccagaagt cacttagagc atcattccat  
1560  
aacctctctc gtggtgaagc aaatgtcttg gaaaagctag ctgacctgag tctgtttgag  
1620  
attagaacta ttcttttcag atatttcaat aagggtggtga atttgcgaga agctgaacgg  
1680  
aaacaacagt tatataatga agaaatgaaa atgaaagttc tggaacggga taatatggtt  
1740  
cgtgaattag aatctgcact ggaccatcta aaattgcagt gtgaccggag actgaccctc  
1800  
cagcaaaagg aacacgaaca aaagatgcag ttgctattac atcatttcaa agaacaagat  
1860  
ggagaaggca ttatggaaac tttcaaaaca tatgaagata aaatccagca gttggaaaaa  
1920  
gatctttatt tctataagaa aaccagccgg gatcataaga agaaacttaa ggaactggta  
1980  
ggggaagcaa ttcggcggca actagcatca tcagagtatc aagaggctgg agatggagtc  
2040  
ctgaagccag aaggaggagg catgctttca gaagaattaa aatgggcatc cagacctgaa  
2100  
agtatgaaat taagtggaag agaaagagaa atggacagtt cagcaagcag cttaagaaca  
2160  
cagccaaatc ctcaaaagct ctgggaagat atcccagaat tacctccaat tcatagttct  
2220  
ttagcacccc ccagtgggca tatgttaggt aatgagaata aaacagaaac agatgataat  
2280

cagtttaca aatctcacag tcgactgtca tcccaaattc aggttggtggg aaatgtggga  
 2340  
 cgacttcacg gtgtcacacc tgtaaaactg tgtcgaaaag aattacgtca aatttcgcgc  
 2400  
 ttggaactat cattgcgacg ttccagtctt ggagttggca ttggatcaat ggctgctgat  
 2460  
 tccatcgaag tatctaggaa accaagggac ttaaaaaactt agacattgaa taatagaact  
 2520  
 tttagtagat atgtaaaaag attcctttttt ctaacctgtt aaaaactaaa gctcaagttc  
 2580  
 actacctctt tcctcagaat aaaggaagaa ggggaggaag gaatccctaa ttcttttata  
 2640  
 tgctatagat gtgtacatct tctatatata tttggggagt tttagtttat attcccatag  
 2700  
 taatcaaaca tgtttttccaa tacttgataa catttaaata tttataaata cgcttaaagt  
 2760  
 tttttccagg catatttgaa gattaaaact agtaatagac taaaaaaaaa aaaaaaaaaa  
 2820  
 aaaaaaag  
 2827

<210> 4234  
 <211> 833  
 <212> PRT  
 <213> Homo sapiens

<400> 4234

Gly	Ser	Leu	Lys	Gly	Asp	His	Ile	Leu	Tyr	His	Leu	Ile	Leu	Ile	Trp
1				5					10					15	
Gly	Ile	Ile	Phe	Ile	Ser	His	Gln	Asp	Lys	Ile	Pro	Gly	Gly	Gly	Ile
			20					25					30		
Thr	Cys	Lys	Val	His	Thr	Ser	Pro	Pro	Met	Tyr	Ser	Leu	Asp	Arg	Ile
		35					40					45			
Phe	Ala	Gly	Phe	Arg	Thr	Arg	Ser	Gln	Met	Leu	Leu	Gly	His	Ile	Glu
	50					55				60					
Glu	Gln	Asp	Lys	Val	Leu	His	Cys	Gln	Phe	Ser	Asp	Asn	Ser	Asp	Asp
65					70				75					80	
Glu	Glu	Ser	Glu	Gly	Gln	Glu	Lys	Ser	Gly	Thr	Arg	Cys	Arg	Ser	Arg
			85						90					95	
Ser	Trp	Ile	Gln	Lys	Pro	Asp	Ser	Val	Cys	Ser	Leu	Val	Glu	Leu	Ser
			100					105					110		
Asp	Thr	Gln	Asp	Glu	Thr	Gln	Lys	Ser	Asp	Leu	Glu	Asn	Glu	Asp	Leu
		115					120					125			
Lys	Ile	Asp	Cys	Leu	Gln	Glu	Ser	Gln	Glu	Leu	Asn	Leu	Gln	Lys	Leu
	130					135				140					
Lys	Asn	Ser	Glu	Arg	Ile	Leu	Thr	Glu	Ala	Lys	Gln	Lys	Met	Arg	Glu
145					150				155					160	
Leu	Thr	Val	Asn	Ile	Lys	Met	Lys	Glu	Asp	Leu	Ile	Lys	Glu	Leu	Ile
			165					170					175		
Lys	Thr	Gly	Asn	Asp	Ala	Lys	Ser	Val	Ser	Lys	Gln	Tyr	Thr	Leu	Lys
		180					185					190			
Val	Thr	Lys	Leu	Glu	His	Asp	Ala	Glu	Gln	Ala	Lys	Val	Glu	Leu	Thr
		195				200						205			
Glu	Thr	Gln	Lys	Gln	Leu	Gln	Glu	Leu	Glu	Asn	Lys	Asp	Leu	Ser	Asp

210 215 220  
 Val Ala Met Lys Val Lys Leu Gln Lys Glu Phe Arg Lys Lys Val Asp  
 225 230 235 240  
 Ala Ala Lys Leu Arg Val Gln Val Leu Gln Lys Lys Gln Gln Asp Ser  
 245 250 255  
 Lys Lys Leu Ala Ser Leu Ser Ile Gln Asn Glu Lys Arg Ala Asn Glu  
 260 265 270  
 Leu Glu Gln Ser Val Asp His Met Lys Tyr Gln Lys Ile Gln Leu Gln  
 275 280 285  
 Arg Lys Leu Arg Glu Glu Asn Glu Lys Arg Lys Gln Leu Asp Ala Val  
 290 295 300  
 Ile Lys Arg Asp Gln Gln Lys Ile Lys Val Ile Gln Leu Lys Thr Gly  
 305 310 315 320  
 Gln Glu Glu Gly Leu Lys Pro Lys Ala Glu Asp Leu Asp Ala Cys Asn  
 325 330 335  
 Leu Lys Arg Arg Lys Gly Ser Phe Gly Ser Ile Asp His Leu Gln Lys  
 340 345 350  
 Leu Asp Glu Gln Lys Lys Trp Leu Asp Glu Glu Val Glu Lys Val Leu  
 355 360 365  
 Asn Gln Arg Gln Glu Leu Glu Glu Leu Glu Ala Asp Leu Lys Lys Arg  
 370 375 380  
 Glu Ala Ile Val Ser Lys Lys Glu Ala Leu Leu Gln Glu Lys Ser His  
 385 390 395 400  
 Leu Glu Asn Lys Lys Leu Arg Ser Ser Gln Ala Leu Asn Thr Asp Ser  
 405 410 415  
 Leu Lys Ile Ser Thr Arg Leu Asn Leu Glu Gln Glu Leu Ser Glu  
 420 425 430  
 Lys Asn Val Gln Leu Gln Thr Ser Thr Ala Glu Glu Lys Thr Lys Ile  
 435 440 445  
 Ser Glu Gln Val Glu Val Leu Gln Lys Glu Lys Asp Gln Leu Gln Lys  
 450 455 460  
 Arg Arg His Asp Val Asp Glu Lys Leu Lys Asn Gly Arg Val Leu Ser  
 465 470 475 480  
 Pro Glu Glu Glu His Val Leu Phe Gln Leu Glu Glu Gly Ile Glu Ala  
 485 490 495  
 Leu Glu Ala Ala Ile Glu Tyr Arg Asn Glu Ser Ile Gln Asn Arg Gln  
 500 505 510  
 Lys Ser Leu Arg Ala Ser Phe His Asn Leu Ser Arg Gly Glu Ala Asn  
 515 520 525  
 Val Leu Glu Lys Leu Ala Cys Leu Ser Pro Val Glu Ile Arg Thr Ile  
 530 535 540  
 Leu Phe Arg Tyr Phe Asn Lys Val Val Asn Leu Arg Glu Ala Glu Arg  
 545 550 555 560  
 Lys Gln Gln Leu Tyr Asn Glu Glu Met Lys Met Lys Val Leu Glu Arg  
 565 570 575  
 Asp Asn Met Val Arg Glu Leu Glu Ser Ala Leu Asp His Leu Lys Leu  
 580 585 590  
 Gln Cys Asp Arg Arg Leu Thr Leu Gln Gln Lys Glu His Glu Gln Lys  
 595 600 605  
 Met Gln Leu Leu Leu His His Phe Lys Glu Gln Asp Gly Glu Gly Ile  
 610 615 620  
 Met Glu Thr Phe Lys Thr Tyr Glu Asp Lys Ile Gln Gln Leu Glu Lys  
 625 630 635 640  
 Asp Leu Tyr Phe Tyr Lys Lys Thr Ser Arg Asp His Lys Lys Lys Leu

				645					650					655			
Lys	Glu	Leu	Val	Gly	Glu	Ala	Ile	Arg	Arg	Gln	Leu	Ala	Ser	Ser	Glu		
			660						665					670			
Tyr	Gln	Glu	Ala	Gly	Asp	Gly	Val	Leu	Lys	Pro	Glu	Gly	Gly	Gly	Met		
		675						680					685				
Leu	Ser	Glu	Glu	Leu	Lys	Trp	Ala	Ser	Arg	Pro	Glu	Ser	Met	Lys	Leu		
	690					695					700						
Ser	Gly	Arg	Glu	Arg	Glu	Met	Asp	Ser	Ser	Ala	Ser	Ser	Leu	Arg	Thr		
705					710					715					720		
Gln	Pro	Asn	Pro	Gln	Lys	Leu	Trp	Glu	Asp	Ile	Pro	Glu	Leu	Pro	Pro		
			725						730					735			
Ile	His	Ser	Ser	Leu	Ala	Pro	Pro	Ser	Gly	His	Met	Leu	Gly	Asn	Glu		
			740					745					750				
Asn	Lys	Thr	Glu	Thr	Asp	Asp	Asn	Gln	Phe	Thr	Lys	Ser	His	Ser	Arg		
		755					760					765					
Leu	Ser	Ser	Gln	Ile	Gln	Val	Val	Gly	Asn	Val	Gly	Arg	Leu	His	Gly		
	770					775					780						
Val	Thr	Pro	Val	Lys	Leu	Cys	Arg	Lys	Glu	Leu	Arg	Gln	Ile	Ser	Ala		
785					790					795					800		
Leu	Glu	Leu	Ser	Leu	Arg	Arg	Ser	Ser	Leu	Gly	Val	Gly	Ile	Gly	Ser		
				805					810					815			
Met	Ala	Ala	Asp	Ser	Ile	Glu	Val	Ser	Arg	Lys	Pro	Arg	Asp	Leu	Lys		
			820					825						830			

Thr

&lt;210&gt; 4235

&lt;211&gt; 971

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4235

```

ngacagcgag cgggggcgac ttgccaataa agttaggctc caacagctgc tgttgccacc
60
accactagtt caagcaccat gcagtttacc tcaatatcaa attctttgac ctccactgct
120
gctattgggc tctcatttac aacttcaacg actaccaccg ccactttcac caccaacact
180
actaccacaa tcaccagtgg ctttactgtg aaccaaacc aactgttacc aagagggttt
240
gaaaaccttg taccttatac ttcaactgtt agtgtagtag caactcctgt gatgacatat
300
ggtcactctg agggctctat aatgagtgg aaccttgagc tggaagatca agagaagtac
360
tttcttctcc aggcactca ggtcaatgct tgggaccata cattgattga gaatgggtgag
420
atgattcgta ttttacctg agaagtgaac aaagtgaac tggatcagaa aagattggaa
480
caagaattgg attttatcct gtcacagcag caggaactag aatttctggt gacttattta
540
gaggagtcta cgcgtgacca gagtggactt cattatctgc aggatgcaga tgaggagcat
600
gtggagatct ccaccagatc tgcagaattc tgaatgccca tatggactcc ctgcagtgga
660

```

ttgatcggaa ttcaggcatg ctgcgaagga aggtagaagt ggtaacacgg gttttcgagg  
 720  
 attatcgtca cgaggagcat gcacacaatg tcaacactgc tttttagtga atgaccatat  
 780  
 cttcagcatg tcgtttctgg attattacct acaaattctg atgttaaata gagtagtatt  
 840  
 tatacttaat atttcatctt gatcataatg aattgtgcat cttttttttc atttaagtat  
 900  
 tgtactgttg agaattatac cttagttttg tttttagtat tagaaaatca aaattatact  
 960  
 agcccccttg t  
 971

<210> 4236  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 4236  
 Ala Pro Thr Ala Ala Val Ala Thr Thr Thr Ser Ser Ser Thr Met Gln  
 1 5 10 15  
 Phe Thr Ser Ile Ser Asn Ser Leu Thr Ser Thr Ala Ala Ile Gly Leu  
 20 25 30  
 Ser Phe Thr Thr Ser Thr Thr Thr Thr Ala Thr Phe Thr Thr Asn Thr  
 35 40 45  
 Thr Thr Thr Ile Thr Ser Gly Phe Thr Val Asn Gln Asn Gln Leu Leu  
 50 55 60  
 Ser Arg Gly Phe Glu Asn Leu Val Pro Tyr Thr Ser Thr Val Ser Val  
 65 70 75 80  
 Val Ala Thr Pro Val Met Thr Tyr Gly His Leu Glu Gly Leu Ile Asn  
 85 90 95  
 Glu Trp Asn Leu Glu Leu Glu Asp Gln Glu Lys Tyr Phe Leu Leu Gln  
 100 105 110  
 Ala Thr Gln Val Asn Ala Trp Asp His Thr Leu Ile Glu Asn Gly Glu  
 115 120 125  
 Met Ile Arg Ile Leu His Gly Glu Val Asn Lys Val Lys Leu Asp Gln  
 130 135 140  
 Lys Arg Leu Glu Gln Glu Leu Asp Phe Ile Leu Ser Gln Gln Gln Glu  
 145 150 155 160  
 Leu Glu Phe Leu Leu Thr Tyr Leu Glu Glu Ser Thr Arg Asp Gln Ser  
 165 170 175  
 Gly Leu His Tyr Leu Gln Asp Ala Asp Glu Glu His Val Glu Ile Ser  
 180 185 190  
 Thr Arg Ser Ala Glu Phe  
 195

<210> 4237  
 <211> 560  
 <212> DNA  
 <213> Homo sapiens

<400> 4237  
 cccaggtggc aggctgctgg tgggccctgt ccatgctgtc gacacgcctc acgctgctgc  
 60



tgatggtggc cacaccagcc ctgatgggag tgggcaccct gatggggtca ggcctccgaa  
 120  
 aattgtctcg ccagtgtcag gagcaggtac cggcattcct ggccatcctc ttcaccctcc  
 180  
 ccacaccgtt tctctttcca ctccccggaa ctctccctg tccccatcct ggactccttg  
 240  
 tcctgttttt tggactcctt gtctgttttc ctggactcct tgcagatcgc cagggcaatg  
 300  
 ggcgtagcag acgaggccct gggcaatgtg cggactgtgc gtgccttcgc catggagcaa  
 360  
 cggaagagg agcgctatgg ggcagagctg gaagcctgcc gctgccgagc agaggagctg  
 420  
 ggccgcggca tcgccttggt ccaagggctt tccaacatcg ccttcaactg tgagtgaacc  
 480  
 atttgggggc tggaggggag cttgtgggct ggggaggagc tgggagcagc caaggcaggc  
 540  
 aaggccctcc cttcacgcgt  
 560

<210> 4238  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 4238  
 Trp Ala Gln Ala Ser Glu Asn Cys Leu Ala Ser Val Arg Ser Arg Tyr  
 1 5 10 15  
 Arg His Ser Trp Pro Ser Ser Ser Pro Ser Pro His Arg Phe Ser Phe  
 20 25 30  
 His Ser Pro Glu Leu Leu Pro Val Pro Ile Leu Asp Ser Leu Ser Cys  
 35 40 45  
 Phe Leu Asp Ser Leu Ser Cys Phe Leu Asp Ser Leu Gln Ile Ala Arg  
 50 55 60  
 Ala Met Gly Val Ala Asp Glu Ala Leu Gly Asn Val Arg Thr Val Arg  
 65 70 75 80  
 Ala Phe Ala Met Glu Gln Arg Glu Glu Glu Arg Tyr Gly Ala Glu Leu  
 85 90 95  
 Glu Ala Cys Arg Cys Arg Ala Glu Glu Leu Gly Arg Gly Ile Ala Leu  
 100 105 110  
 Phe Gln Gly Leu Ser Asn Ile Ala Phe Asn Cys Glu  
 115 120

<210> 4239  
 <211> 3127  
 <212> DNA  
 <213> Homo sapiens

<400> 4239  
 nngaaagggg aaggggagtt gggagaggca cctcaacttt gatgtcccga gccttgagtg  
 60  
 gccactcgca agctggccaa gggcttcaca caatttgcca agatgacaga ggggaccaag  
 120  
 aagaccagca aaaagttcaa gttcttcaag ttcaagggct ttgggagtct ctccaacctc  
 180

cctcggtcct tcactctgag acgatcctca gcttccatca gtaggcagtc ccatttgag  
240  
cctgacacct ttgaagccac gcaggatgac atggtgacgg tgcccaagag tccccagcc  
300  
tatgcccgtc ccagtgacat gtacagccac atgggcacca tgctcgccc cagcatcaag  
360  
aaagcacaga actcacaggc tgcccggcag gcccaggagg cgggtcccaa gcccaacttg  
420  
gtacccggag gtgtaccca cccccaggc ttggaggcag ccaaagaggt gatggtgaag  
480  
gccactggcc ctctagagga caccagca atggaacca acccttcagc agtggaggta  
540  
gacccatca gaaagcctga ggtcccaca ggagacgtag aagaggagag acctccagg  
600  
gacgtgcact cagaaagggc tgctggagag ccagaggctg gcagcgacta tgtgaagtgc  
660  
tccaaggaga agtacatcct ggactcatcg ccagagaaac tccacaagga attggaggag  
720  
gagctcaaac tcagcagcac ggatctccgc agccatgcct ggtaccatgg ccgcacccc  
780  
cgagaggctc cggagacctt ggtacaacgc aacggcgact tcctcatccg ggactcactc  
840  
accagcctgg gcgactatgt gctcacgtgc cgctggcgca accaggcctt gcacttcaag  
900  
atcaacaagg tgggtggtgaa ggcaggcgag agctacacac acatccagta cctgtttgag  
960  
caggagagct ttgaccacgt gcccgcctc gtgcgctatc atgtgggcag ccgcaaggct  
1020  
gtgtcagagc agagtgggtgc catcatctac tgcccgggtga accgcacctt cccactgcgc  
1080  
tacctcgaag ccagctatgg cctgggacag gggagtagca agcctgctag ccccgtcagc  
1140  
ccctcaggcc ccaagggcag ccacatgaag cggcgcgagc tcaccatgac cgatgggctc  
1200  
actgctgaca aggtcacccg cagcgatggc tgccccacca gtacgtcgct gcccgcct  
1260  
cgggactcca tccgcagctg tgccctcagc atggaccaga tcccagacct gcactcacc  
1320  
atgtcgccca tctccgagag ccctagctcc cctgcctaca gcactgtaac ccgtgtccat  
1380  
gccgcccctg cagcccttc tgccacagca ttgcctgcct cccctgtcgc ccgtgttcc  
1440  
agtgaagccc agctgtgtcc cggaagtgc ccaaagacc atggggagtc agacaagggc  
1500  
ccccacacca gcccctcca cacccttggc aaggcctccc cgtcaccatc actcagcagc  
1560  
tacagtgacc cggactctgg cactactgc cagctccagc ctcccgtgcg tggcagccga  
1620  
gagtgggcag cgactgagac ctccagccag caggccagga gctatgggga gaggctaaag  
1680  
gaactgtcag aaaatggggc ccctgaaggg gactggggca agaccttcac agtccccatc  
1740  
gtggaagtca cttcttctt caaccggcc accttcagc cactactgat cccagggat  
1800

aaccggccac tggaggtggg ccttctgcgc aagggtcaagg agctgctggc agaagtggat  
1860  
gcccggacgc tggcccgga tgccaccaag gtggactgcc tggttgctag gatactgggc  
1920  
gttaccaagg agatgcagac cctaattggga gtccgctggg gcatggaact gctcacccctc  
1980  
ccccatggcc ggcagctacg cctagacctg ctggaaagg tccacacccat gtccatcatg  
2040  
ctggccgtgg acatcctggg ctgcaccggc tctgcggagg agcgggcagc gctgctgcac  
2100  
aagaccattc agctggcggc cgagctacgg gggactatgg gcaacatgtt cagcttcgcg  
2160  
gcggtcattg gtgccctgga catggctcag atttctcggc tggagcagac atgggtgacc  
2220  
ctgcggcagc gacacacaga gggtgccatc ctgtacgaga agaagctcaa gccttttctc  
2280  
aagagcctca acgagggcaa agaaggcccg ccgctgagca acaccacgtt tcctcatgtg  
2340  
ctgccccctc tcaccctgct ggagtgtgac tcggcccccac cagagggccc tgagccctgg  
2400  
ggcagcacgg agcacggcgt ggaggtggtg ctggctcacc tggaggccgc ccgcacagtg  
2460  
gcacaccacg gaggcctgta ccacaccaat gctgaagtca agctgcaggg gttccaggcc  
2520  
cggccggagc tcctggagggt gttcagcacg gagttccaga tgcgccttct ctggggcagt  
2580  
cagggtgcca gcagcagcca ggcccggcgc tatgagaagt tcgacaagggt cctcactgcc  
2640  
ctgtcccaca agctggaacc tgctgtccgc tccagcgagc tgtgaccca gggacatttc  
2700  
ccctctgcag ctgcggacag cgtcaggggc agaggggcac acaactttcc ccagagcacc  
2760  
ccaaggacac tgtgatcaac ccgagaatgt tctgggttca actcaagcat ctcccttgca  
2820  
cctccagggt cctgcgtgga ctctgggttc catccacct gctacatgct caccaggctc  
2880  
ccattgagga agaacaggaa cgccgggttc cccaccagct tttgctgctc ccttctctgc  
2940  
tggggttccc tgttttcgag ccatgggagg caggctgctc acgcctctc actctctgtc  
3000  
tgtccctcac caacaccaag gcctccatct cactgtaaat aagtctctgt tctgtaaata  
3060  
gatgtacaga agccatgtta tttctttcat ataataaact tttatgactc tttaaaaaaa  
3120  
aaaaaaa  
3127

&lt;210&gt; 4240

&lt;211&gt; 860

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4240

Met Thr Glu Gly Thr Lys Lys Thr Ser Lys Lys Phe Lys Phe Phe Lys

1		5		10		15									
Phe	Lys	Gly	Phe	Gly	Ser	Leu	Ser	Asn	Leu	Pro	Arg	Ser	Phe	Thr	Leu
		20						25					30		
Arg	Arg	Ser	Ser	Ala	Ser	Ile	Ser	Arg	Gln	Ser	His	Leu	Glu	Pro	Asp
		35					40					45			
Thr	Phe	Glu	Ala	Thr	Gln	Asp	Asp	Met	Val	Thr	Val	Pro	Lys	Ser	Pro
	50				55					60					
Pro	Ala	Tyr	Ala	Arg	Ser	Ser	Asp	Met	Tyr	Ser	His	Met	Gly	Thr	Met
65					70				75					80	
Pro	Arg	Pro	Ser	Ile	Lys	Lys	Ala	Gln	Asn	Ser	Gln	Ala	Ala	Arg	Gln
			85					90					95		
Ala	Gln	Glu	Ala	Gly	Pro	Lys	Pro	Asn	Leu	Val	Pro	Gly	Gly	Val	Pro
		100						105					110		
Asp	Pro	Pro	Gly	Leu	Glu	Ala	Ala	Lys	Glu	Val	Met	Val	Lys	Ala	Thr
	115					120					125				
Gly	Pro	Leu	Glu	Asp	Thr	Pro	Ala	Met	Glu	Pro	Asn	Pro	Ser	Ala	Val
	130					135					140				
Glu	Val	Asp	Pro	Ile	Arg	Lys	Pro	Glu	Val	Pro	Thr	Gly	Asp	Val	Glu
145					150				155					160	
Glu	Glu	Arg	Pro	Pro	Arg	Asp	Val	His	Ser	Glu	Arg	Ala	Ala	Gly	Glu
			165					170					175		
Pro	Glu	Ala	Gly	Ser	Asp	Tyr	Val	Lys	Phe	Ser	Lys	Glu	Lys	Tyr	Ile
		180						185				190			
Leu	Asp	Ser	Ser	Pro	Glu	Lys	Leu	His	Lys	Glu	Leu	Glu	Glu	Glu	Leu
	195					200					205				
Lys	Leu	Ser	Ser	Thr	Asp	Leu	Arg	Ser	His	Ala	Trp	Tyr	His	Gly	Arg
	210					215					220				
Ile	Pro	Arg	Glu	Val	Ser	Glu	Thr	Leu	Val	Gln	Arg	Asn	Gly	Asp	Phe
225					230				235					240	
Leu	Ile	Arg	Asp	Ser	Leu	Thr	Ser	Leu	Gly	Asp	Tyr	Val	Leu	Thr	Cys
			245					250					255		
Arg	Trp	Arg	Asn	Gln	Ala	Leu	His	Phe	Lys	Ile	Asn	Lys	Val	Val	Val
		260						265					270		
Lys	Ala	Gly	Glu	Ser	Tyr	Thr	His	Ile	Gln	Tyr	Leu	Phe	Glu	Gln	Glu
		275					280					285			
Ser	Phe	Asp	His	Val	Pro	Ala	Leu	Val	Arg	Tyr	His	Val	Gly	Ser	Arg
	290					295					300				
Lys	Ala	Val	Ser	Glu	Gln	Ser	Gly	Ala	Ile	Ile	Tyr	Cys	Pro	Val	Asn
305					310				315					320	
Arg	Thr	Phe	Pro	Leu	Arg	Tyr	Leu	Glu	Ala	Ser	Tyr	Gly	Leu	Gly	Gln
			325					330					335		
Gly	Ser	Ser	Lys	Pro	Ala	Ser	Pro	Val	Ser	Pro	Ser	Gly	Pro	Lys	Gly
		340						345				350			
Ser	His	Met	Lys	Arg	Arg	Ser	Val	Thr	Met	Thr	Asp	Gly	Leu	Thr	Ala
	355						360				365				
Asp	Lys	Val	Thr	Arg	Ser	Asp	Gly	Cys	Pro	Thr	Ser	Thr	Ser	Leu	Pro
	370					375					380				
Arg	Pro	Arg	Asp	Ser	Ile	Arg	Ser	Cys	Ala	Leu	Ser	Met	Asp	Gln	Ile
385					390				395					400	
Pro	Asp	Leu	His	Ser	Pro	Met	Ser	Pro	Ile	Ser	Glu	Ser	Pro	Ser	Ser
			405					410					415		
Pro	Ala	Tyr	Ser	Thr	Val	Thr	Arg	Val	His	Ala	Ala	Pro	Ala	Ala	Pro
		420						425				430			
Ser	Ala	Thr	Ala	Leu	Pro	Ala	Ser	Pro	Val	Ala	Arg	Cys	Ser	Ser	Glu

435				440				445							
Pro	Gln	Leu	Cys	Pro	Gly	Ser	Ala	Pro	Lys	Thr	His	Gly	Glu	Ser	Asp
450				455				460							
Lys	Gly	Pro	His	Thr	Ser	Pro	Ser	His	Thr	Leu	Gly	Lys	Ala	Ser	Pro
465				470				475				480			
Ser	Pro	Ser	Leu	Ser	Ser	Tyr	Ser	Asp	Pro	Asp	Ser	Gly	His	Tyr	Cys
485				490				495							
Gln	Leu	Gln	Pro	Pro	Val	Arg	Gly	Ser	Arg	Glu	Trp	Ala	Ala	Thr	Glu
500				505				510							
Thr	Ser	Ser	Gln	Gln	Ala	Arg	Ser	Tyr	Gly	Glu	Arg	Leu	Lys	Glu	Leu
515				520				525							
Ser	Glu	Asn	Gly	Ala	Pro	Glu	Gly	Asp	Trp	Gly	Lys	Thr	Phe	Thr	Val
530				535				540							
Pro	Ile	Val	Glu	Val	Thr	Ser	Ser	Phe	Asn	Pro	Ala	Thr	Phe	Gln	Ser
545				550				555				560			
Leu	Leu	Ile	Pro	Arg	Asp	Asn	Arg	Pro	Leu	Glu	Val	Gly	Leu	Leu	Arg
565				570				575							
Lys	Val	Lys	Glu	Leu	Leu	Ala	Glu	Val	Asp	Ala	Arg	Thr	Leu	Ala	Arg
580				585				590							
His	Val	Thr	Lys	Val	Asp	Cys	Leu	Val	Ala	Arg	Ile	Leu	Gly	Val	Thr
595				600				605							
Lys	Glu	Met	Gln	Thr	Leu	Met	Gly	Val	Arg	Trp	Gly	Met	Glu	Leu	Leu
610				615				620							
Thr	Leu	Pro	His	Gly	Arg	Gln	Leu	Arg	Leu	Asp	Leu	Leu	Glu	Arg	Phe
625				630				635				640			
His	Thr	Met	Ser	Ile	Met	Leu	Ala	Val	Asp	Ile	Leu	Gly	Cys	Thr	Gly
645				650				655							
Ser	Ala	Glu	Glu	Arg	Ala	Ala	Leu	Leu	His	Lys	Thr	Ile	Gln	Leu	Ala
660				665				670							
Ala	Glu	Leu	Arg	Gly	Thr	Met	Gly	Asn	Met	Phe	Ser	Phe	Ala	Ala	Val
675				680				685							
Met	Gly	Ala	Leu	Asp	Met	Ala	Gln	Ile	Ser	Arg	Leu	Glu	Gln	Thr	Trp
690				695				700							
Val	Thr	Leu	Arg	Gln	Arg	His	Thr	Glu	Gly	Ala	Ile	Leu	Tyr	Glu	Lys
705				710				715				720			
Lys	Leu	Lys	Pro	Phe	Leu	Lys	Ser	Leu	Asn	Glu	Gly	Lys	Glu	Gly	Pro
725				730				735							
Pro	Leu	Ser	Asn	Thr	Thr	Phe	Pro	His	Val	Leu	Pro	Leu	Ile	Thr	Leu
740				745				750							
Leu	Glu	Cys	Asp	Ser	Ala	Pro	Pro	Glu	Gly	Pro	Glu	Pro	Trp	Gly	Ser
755				760				765							
Thr	Glu	His	Gly	Val	Glu	Val	Leu	Ala	His	Leu	Glu	Ala	Ala	Arg	
770				775				780							
Thr	Val	Ala	His	His	Gly	Gly	Leu	Tyr	His	Thr	Asn	Ala	Glu	Val	Lys
785				790				795				800			
Leu	Gln	Gly	Phe	Gln	Ala	Arg	Pro	Glu	Leu	Leu	Glu	Val	Phe	Ser	Thr
805				810				815							
Glu	Phe	Gln	Met	Arg	Leu	Leu	Trp	Gly	Ser	Gln	Gly	Ala	Ser	Ser	Ser
820				825				830							
Gln	Ala	Arg	Arg	Tyr	Glu	Lys	Phe	Asp	Lys	Val	Leu	Thr	Ala	Leu	Ser
835				840				845							
His	Lys	Leu	Glu	Pro	Ala	Val	Arg	Ser	Ser	Glu	Leu				
850				855				860							

<210> 4241  
 <211> 479  
 <212> DNA  
 <213> Homo sapiens

<400> 4241  
 nacgcgtttt ctgaaaggag cttcctggca ctcaccagcc gcttcctggt tggactcctg  
 60  
 aacgaggaga ccaggagcca cctggagaag agtctctgct ggaaggcttc gccgcacatc  
 120  
 aagatggacc tgttgcaagt gatccaaagc aaaactcaga gcgacggctc caccctgcag  
 180  
 cagggctcct tggagttctt cagctgcttg tacgagatcc aggaggagga gtttatccag  
 240  
 caggccctga gccacttcca ggtgatcgtg gtcagcaaca ttgcctccaa gatggagcac  
 300  
 atggtctcct cgttctgtct gaagcgctgc aggagcgccc aggtgctgca cttgtatggc  
 360  
 gccacctaca gcgcggacgg ggaagaccgc gcgaggtgtc cgcaggagcg cacacgctgt  
 420  
 tgggtgcagct accagagagg cccgttctgc tggacgccta cagtgaacat ctggcagcg  
 479

<210> 4242  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 4242  
 Xaa Ala Phe Ser Glu Arg Ser Phe Leu Ala Leu Thr Ser Arg Phe Leu  
 1 5 10 15  
 Phe Gly Leu Leu Asn Glu Glu Thr Arg Ser His Leu Glu Lys Ser Leu  
 20 25 30  
 Cys Trp Lys Val Ser Pro His Ile Lys Met Asp Leu Leu Gln Trp Ile  
 35 40 45  
 Gln Ser Lys Thr Gln Ser Asp Gly Ser Thr Leu Gln Gln Gly Ser Leu  
 50 55 60  
 Glu Phe Phe Ser Cys Leu Tyr Glu Ile Gln Glu Glu Phe Ile Gln  
 65 70 75 80  
 Gln Ala Leu Ser His Phe Gln Val Ile Val Val Ser Asn Ile Ala Ser  
 85 90 95  
 Lys Met Glu His Met Val Ser Ser Phe Cys Leu Lys Arg Cys Arg Ser  
 100 105 110  
 Ala Gln Val Leu His Leu Tyr Gly Ala Thr Tyr Ser Ala Asp Gly Glu  
 115 120 125  
 Asp Arg Ala Arg Cys Pro Gln Glu Arg Thr Arg Cys Trp Cys Ser Tyr  
 130 135 140  
 Gln Arg Gly Pro Phe Cys Trp Thr Pro Thr Val Asn Ile Trp Gln  
 145 150 155

<210> 4243  
 <211> 3159  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 4243

ngccgcaacc cgtcccggag gtgtcctgtc tcctgtcgcc gccgccgccg ccaccaccgc  
60  
tgccactgcc gccctgccgg ggccatgttc gctctgggct tgcccttctt ggtgctcttg  
120  
gtggcctcgg tcgagagcca tctgggggtt ctggggccca agaacgtctc gcagaaagac  
180  
gccgagtttg agcgcaccta cgtggacgag gtcaacagcg agctggtcaa catctacacc  
240  
ttcaaccata ctgtgacccg caacaggaca gagggcgtgc gtgtgtctgt gaacgtcctg  
300  
aacaagcaga agggggcgcc gttgctgttt gtgggccgcc agaaggaggc tgtggtgtcc  
360  
ttccaggtgc ccctaatect gcgagggatg tttcagcgca agtacctcta ccaaaaagtg  
420  
gaacgaaccc tgtgtcagcc cccacccaag aatgagtcgg agattcagtt cttctacgtg  
480  
gatgtgtcca ccctgtcacc agtcaacacc acataccagc tccgggtcag ccgcatggac  
540  
gattttgtgc tcaggactgg ggagcagttc agcttcaata ccacagcagc acagccccag  
600  
tacttcaagt atgagttccc tgaaggcgtg gactcggtaa ttgtcaaggc gacctccaac  
660  
aaggccttcc cctgctcagt catctccatt caggatgtgc tgtgtcctgt ctatgacctg  
720  
gacaacaacg tagccttcat cggcatgtac cagacgatga ccaagaaggc ggccatcacc  
780  
gtacagcgca aagacttccc cagcaacagc ttttatgtgg tgggtggtggg gaagaccgaa  
840  
gaccaagcct gcgggggctc cctgcctttc tacccttcg cagaagatga accggtcgat  
900  
caagggcacc gccagaaaac cctgtcagtg ctgggtgtctc aagcagtcac gtctgaggca  
960  
tacgtcagtg ggatgctctt ttgcctgggt atatttctct ccttttacct gctgaccgtc  
1020  
ctcctggcct gctgggagaa ctggaggcag aagaagaaga ccctgctggg ggccattgac  
1080  
cgagcctgcc cagaaagcgc ttctctcctt ggtcaccctc gagtcctggc tgattctttt  
1140  
cctggcagtt ccccttatga gggttacaac tatggctcct ttgagaatgt ttctggatct  
1200  
accgatggtc tggttgacag cgctggcact ggggacctct cttacgggta ccaggggcac  
1260  
gaccagttca agcggcgctt cccctctggc cagatgcggc agctgtgcat tgccatgggc  
1320  
cgctcctttg aacctgtagg tactcggccc cgagtggact ccatgagctc tgtggaggag  
1380  
gatgactacg acacattgac cgacatcgat tccgacaaga atgtcattcg caccaagcaa  
1440  
tacctctatg tggctgacct ggcacggaag gacaagcgtg ttctgcggaa aaagtaccag  
1500  
atctacttct ggaacattgc caccattgct gtcttctatg cccttctgt ggtgcagctg  
1560

gtgatcacct accagacggt ggtgaatgtc acagggaatc aggacatctg ctactacaac  
1620  
ttcctctgcg cccaccact gggcaatctc agcgcttca acaacatcct cagcaacctg  
1680  
gggtacatcc tgctggggct gcttttcctg ctcatcatcc tgcaacggga gatcaaccac  
1740  
aaccggggccc tgctgcgcaa tgacctctgt gccctggaat gtgggatccc caaacacttt  
1800  
gggcttttct acgccatggg cacagccctg atgatggagg ggctgctcag tgcttgctat  
1860  
catgtgtgcc ccaactatac caatttccag tttgacacat cgttcatgta catgatcgcc  
1920  
ggactctgca tgctgaagct ctaccagaag cggcaccgag acatcaacgc cagcgctac  
1980  
agtgcctacg cctgcctggc cattgtcatc ttcttctctg tgctgggctg ggtctttggc  
2040  
aaaggggaaca cggcgttctg gatcgctctc tccatcatc acatcatcgc caccctgctc  
2100  
ctcagcagc agctctatta catgggcggg tggaaactgg actcggggat cttccgccc  
2160  
atcctccacg tgctctacac agactgcac cggcagtgca gcgggcccgt ctacgtggac  
2220  
cgcattggtc tgctggcat gggcaacgtc atcaactggt cgctggctgc ctatgggctt  
2280  
atcatgcgc ccaatgattt cgcttctac ttgttgcca ttggcatctg caacctgctc  
2340  
ctttacttcg cttctacat catcatgaag ctccggagtg gggagaggat caagctcgc  
2400  
ccctgctct gcatcgttt cacctccgtg gtctggggct tcgcgctctt cttcttctc  
2460  
cagggactca gcacctggca gaaaaccct gcagagtcga gggagcaca cgggactgc  
2520  
atcctcctcg acttctttga cgaccacgac atctggcact tcctctctc catcgccatg  
2580  
ttcgggtcct tcctggtaag cgggcctccc ggcgcagcgt tgaggataac gtgaaaggta  
2640  
gcagctgcct cttctctgt gagctgatct ggcgtccaca cccaggtgt tagctgacac  
2700  
tggatgacga cctggatact tagaaagggg cttcaggaag ggatgtgctg tttccctcta  
2760  
cgtgcccagt cctagcctcg ctctaggacc cagggtggc ttctaagttt ccgtccagtc  
2820  
ttcaggcaag ttctgtgtta gtcatgcaca cacataccta tgaaacctg aagtttaca  
2880  
agaattgccc cagctctggg caccctggc accctggtcc ttggatcccc ttcgtccac  
2940  
ctggtccacc ccagatgctg aggatggggg agctcaggcg gggcctctgc tttggggatg  
3000  
ggaatgtgtt tttctccaa acttgtttt atagctctgc ttgaagggt gggagatgag  
3060  
gtgggtctgg atctttctc agagcgtct catgctatgg ttgcatttcc gttttctatg  
3120  
aatgaatttg catacaataa ccaaccagac tcagtaaaa  
3159



<210> 4244  
 <211> 849  
 <212> PRT  
 <213> Homo sapiens

<400> 4244  
 Met Phe Ala Leu Gly Leu Pro Phe Leu Val Leu Leu Val Ala Ser Val  
 1 5 10 15  
 Glu Ser His Leu Gly Val Leu Gly Pro Lys Asn Val Ser Gln Lys Asp  
 20 25 30  
 Ala Glu Phe Glu Arg Thr Tyr Val Asp Glu Val Asn Ser Glu Leu Val  
 35 40 45  
 Asn Ile Tyr Thr Phe Asn His Thr Val Thr Arg Asn Arg Thr Glu Gly  
 50 55 60  
 Val Arg Val Ser Val Asn Val Leu Asn Lys Gln Lys Gly Ala Pro Leu  
 65 70 75 80  
 Leu Phe Val Val Arg Gln Lys Glu Ala Val Val Ser Phe Gln Val Pro  
 85 90 95  
 Leu Ile Leu Arg Gly Met Phe Gln Arg Lys Tyr Leu Tyr Gln Lys Val  
 100 105 110  
 Glu Arg Thr Leu Cys Gln Pro Pro Thr Lys Asn Glu Ser Glu Ile Gln  
 115 120 125  
 Phe Phe Tyr Val Asp Val Ser Thr Leu Ser Pro Val Asn Thr Thr Tyr  
 130 135 140  
 Gln Leu Arg Val Ser Arg Met Asp Asp Phe Val Leu Arg Thr Gly Glu  
 145 150 155 160  
 Gln Phe Ser Phe Asn Thr Thr Ala Ala Gln Pro Gln Tyr Phe Lys Tyr  
 165 170 175  
 Glu Phe Pro Glu Gly Val Asp Ser Val Ile Val Lys Val Thr Ser Asn  
 180 185 190  
 Lys Ala Phe Pro Cys Ser Val Ile Ser Ile Gln Asp Val Leu Cys Pro  
 195 200 205  
 Val Tyr Asp Leu Asp Asn Asn Val Ala Phe Ile Gly Met Tyr Gln Thr  
 210 215 220  
 Met Thr Lys Lys Ala Ala Ile Thr Val Gln Arg Lys Asp Phe Pro Ser  
 225 230 235 240  
 Asn Ser Phe Tyr Val Val Val Val Lys Thr Glu Asp Gln Ala Cys  
 245 250 255  
 Gly Gly Ser Leu Pro Phe Tyr Pro Phe Ala Glu Asp Glu Pro Val Asp  
 260 265 270  
 Gln Gly His Arg Gln Lys Thr Leu Ser Val Leu Val Ser Gln Ala Val  
 275 280 285  
 Thr Ser Glu Ala Tyr Val Ser Gly Met Leu Phe Cys Leu Gly Ile Phe  
 290 295 300  
 Leu Ser Phe Tyr Leu Leu Thr Val Leu Leu Ala Cys Trp Glu Asn Trp  
 305 310 315 320  
 Arg Gln Lys Lys Lys Thr Leu Leu Val Ala Ile Asp Arg Ala Cys Pro  
 325 330 335  
 Glu Ser Ala Ser Leu Leu Gly His Pro Arg Val Leu Ala Asp Ser Phe  
 340 345 350  
 Pro Gly Ser Ser Pro Tyr Glu Gly Tyr Asn Tyr Gly Ser Phe Glu Asn  
 355 360 365  
 Val Ser Gly Ser Thr Asp Gly Leu Val Asp Ser Ala Gly Thr Gly Asp

370 375 380  
 Leu Ser Tyr Gly Tyr Gln Gly His Asp Gln Phe Lys Arg Arg Leu Pro  
 385 390 395 400  
 Ser Gly Gln Met Arg Gln Leu Cys Ile Ala Met Gly Arg Ser Phe Glu  
 405 410 415  
 Pro Val Gly Thr Arg Pro Arg Val Asp Ser Met Ser Ser Val Glu Glu  
 420 425 430  
 Asp Asp Tyr Asp Thr Leu Thr Asp Ile Asp Ser Asp Lys Asn Val Ile  
 435 440 445  
 Arg Thr Lys Gln Tyr Leu Tyr Val Ala Asp Leu Ala Arg Lys Asp Lys  
 450 455 460  
 Arg Val Leu Arg Lys Lys Tyr Gln Ile Tyr Phe Trp Asn Ile Ala Thr  
 465 470 475 480  
 Ile Ala Val Phe Tyr Ala Leu Pro Val Val Gln Leu Val Ile Thr Tyr  
 485 490 495  
 Gln Thr Val Val Asn Val Thr Gly Asn Gln Asp Ile Cys Tyr Tyr Asn  
 500 505 510  
 Phe Leu Cys Ala His Pro Leu Gly Asn Leu Ser Ala Phe Asn Asn Ile  
 515 520 525  
 Leu Ser Asn Leu Gly Tyr Ile Leu Leu Gly Leu Leu Phe Leu Leu Ile  
 530 535 540  
 Ile Leu Gln Arg Glu Ile Asn His Asn Arg Ala Leu Leu Arg Asn Asp  
 545 550 555 560  
 Leu Cys Ala Leu Glu Cys Gly Ile Pro Lys His Phe Gly Leu Phe Tyr  
 565 570 575  
 Ala Met Gly Thr Ala Leu Met Met Glu Gly Leu Leu Ser Ala Cys Tyr  
 580 585 590  
 His Val Cys Pro Asn Tyr Thr Asn Phe Gln Phe Asp Thr Ser Phe Met  
 595 600 605  
 Tyr Met Ile Ala Gly Leu Cys Met Leu Lys Leu Tyr Gln Lys Arg His  
 610 615 620  
 Pro Asp Ile Asn Ala Ser Ala Tyr Ser Ala Tyr Ala Cys Leu Ala Ile  
 625 630 635 640  
 Val Ile Phe Phe Ser Val Leu Gly Val Val Phe Gly Lys Gly Asn Thr  
 645 650 655  
 Ala Phe Trp Ile Val Phe Ser Ile Ile His Ile Ile Ala Thr Leu Leu  
 660 665 670  
 Leu Ser Thr Gln Leu Tyr Tyr Met Gly Arg Trp Lys Leu Asp Ser Gly  
 675 680 685  
 Ile Phe Arg Arg Ile Leu His Val Leu Tyr Thr Asp Cys Ile Arg Gln  
 690 695 700  
 Cys Ser Gly Pro Leu Tyr Val Asp Arg Met Val Leu Leu Val Met Gly  
 705 710 715 720  
 Asn Val Ile Asn Trp Ser Leu Ala Ala Tyr Gly Leu Ile Met Arg Pro  
 725 730 735  
 Asn Asp Phe Ala Ser Tyr Leu Leu Ala Ile Gly Ile Cys Asn Leu Leu  
 740 745 750  
 Leu Tyr Phe Ala Phe Tyr Ile Ile Met Lys Leu Arg Ser Gly Glu Arg  
 755 760 765  
 Ile Lys Leu Ile Pro Leu Leu Cys Ile Val Cys Thr Ser Val Val Trp  
 770 775 780  
 Gly Phe Ala Leu Phe Phe Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys  
 785 790 795 800  
 Thr Pro Ala Glu Ser Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp

				805					810					815					
Phe	Phe	Asp	Asp	His	Asp	Ile	Trp	His	Phe	Leu	Ser	Ser	Ile	Ala	Met				
			820					825					830						
Phe	Gly	Ser	Phe	Leu	Val	Ser	Gly	Pro	Pro	Gly	Ala	Ala	Leu	Arg	Ile				
		835					840						845						

Thr

<210> 4245  
 <211> 909  
 <212> DNA  
 <213> Homo sapiens

<400> 4245  
 ngggcccaga gcctccaaga ggctgcacac caggagctca acaccctcaa gttccagctg  
 60  
 agtgctgaaa tcatggacta ccagagcaga cttaagaatg ctggtgaaga gtgcaagagc  
 120  
 ctcaggggcc agcttgagga gcaaggccgg cagctgcagg ctgctgagga agctgtggag  
 180  
 aagctgaagg ccaccaagc agacatggga gagaagctga gctgcactag caaccatctt  
 240  
 gcagagtgcc aggcggccat gctgaggaag gacaaggagg gggctgccct gcgtgaagac  
 300  
 ctgaaaagga cccagaagga actcgaaaaa gccacaacaa aaatccaaga gtattacaac  
 360  
 aaactctgcc aggaggtgac aaatcgtgag aggaatgacc agaagatgct tgctgacctg  
 420  
 gatgacctca acagaaccaa gaagtatctc gaggagcggc tgatagagct gctcagggac  
 480  
 aaggatgctc tctggcagaa gtcagatgcc ctggaattcc agcagaagct cagtgtgag  
 540  
 gagagatggc tcggagacac agaggcaaac cactgcctcg actgtaagcg ggagttcagc  
 600  
 tggatggtgc ggcggcacca ctgcaggata tgtggccgca tcttctgtta ctactgctgc  
 660  
 aacaactacg tcctgagcaa gcacggtggc aaaaaggagc gctgctgccg agcctgtttc  
 720  
 cagaagctca gtgaaggccc tggetcccct gatagcagtg gctcaggcac tagccagggg  
 780  
 gagctcagcc ctgcactgtc accagcctca cctgggcccc aggccacagg aggccaagga  
 840  
 gcaaatacag actacaggcc accggacgac gctgtgtttg atatcatcac agatgaggaa  
 900  
 ttgtgccag  
 909

<210> 4246  
 <211> 303  
 <212> PRT  
 <213> Homo sapiens

<400> 4246  
 Xaa Ala Gln Ser Leu Gln Glu Ala Ala His Gln Glu Leu Asn Thr Leu

1	5	10	15
Lys Phe Gln Leu Ser Ala Glu Ile Met Asp Tyr Gln Ser Arg Leu Lys			
20	25	30	
Asn Ala Gly Glu Glu Cys Lys Ser Leu Arg Gly Gln Leu Glu Glu Gln			
35	40	45	
Gly Arg Gln Leu Gln Ala Ala Glu Glu Ala Val Glu Lys Leu Lys Ala			
50	55	60	
Thr Gln Ala Asp Met Gly Glu Lys Leu Ser Cys Thr Ser Asn His Leu			
65	70	75	80
Ala Glu Cys Gln Ala Ala Met Leu Arg Lys Asp Lys Glu Gly Ala Ala			
85	90	95	
Leu Arg Glu Asp Leu Glu Arg Thr Gln Lys Glu Leu Glu Lys Ala Thr			
100	105	110	
Thr Lys Ile Gln Glu Tyr Tyr Asn Lys Leu Cys Gln Glu Val Thr Asn			
115	120	125	
Arg Glu Arg Asn Asp Gln Lys Met Leu Ala Asp Leu Asp Asp Leu Asn			
130	135	140	
Arg Thr Lys Lys Tyr Leu Glu Glu Arg Leu Ile Glu Leu Leu Arg Asp			
145	150	155	160
Lys Asp Ala Leu Trp Gln Lys Ser Asp Ala Leu Glu Phe Gln Gln Lys			
165	170	175	
Leu Ser Ala Glu Arg Trp Leu Gly Asp Thr Glu Ala Asn His Cys			
180	185	190	
Leu Asp Cys Lys Arg Glu Phe Ser Trp Met Val Arg Arg His His Cys			
195	200	205	
Arg Ile Cys Gly Arg Ile Phe Cys Tyr Tyr Cys Cys Asn Asn Tyr Val			
210	215	220	
Leu Ser Lys His Gly Gly Lys Lys Glu Arg Cys Cys Arg Ala Cys Phe			
225	230	235	240
Gln Lys Leu Ser Glu Gly Pro Gly Ser Pro Asp Ser Ser Gly Ser Gly			
245	250	255	
Thr Ser Gln Gly Glu Leu Ser Pro Ala Leu Ser Pro Ala Ser Pro Gly			
260	265	270	
Pro Gln Ala Thr Gly Gly Gln Gly Ala Asn Thr Asp Tyr Arg Pro Pro			
275	280	285	
Asp Asp Ala Val Phe Asp Ile Ile Thr Asp Glu Glu Leu Cys Gln			
290	295	300	

&lt;210&gt; 4247

&lt;211&gt; 5755

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4247

caccctctgg acaagagaac gggcgagcgg gagctaggag ggaagagtgg agaggaccgg  
60  
cgaggcgcg cagccggagc cacctccttc ccggccgccc cctccccact cccctacac  
120  
acacacgctc gctcgctcgc cggcgcgcg acaccccccg cgccggaccc gcacctcggc  
180  
gggcgccaca cactcggcag ccgagccgc ggtagccgca gcgggatgga ggcggcgcg  
240  
acggagcgcc ccgcaggcag gccgggggcg ccgcttgctc ggacggggct cctactcttg  
300

tcgacgtggg tcctggccgg cgccgagatc acttgggacg cgacaggcgg tcccggacgc  
360  
ccggcggccc cggttcgcg gccaccggcg ttgtctccac tctcgcccg ggcagtggcc  
420  
agccagtggc cggaggagct ggcgtcggcg cggagagccg ccgtgctggg gcgccggggc  
480  
ggaccagagc tgctgcccc aagggcgggc ggcagaggcg gtgagatgca ggtggaagcc  
540  
ggagggacat caccggcagg cgagcggcgg ggccggggca tcccagctcc tgccaagctt  
600  
ggcggcgcga ggaggagtgc ccgggcgcag cccccaatca cccaggaacg cggggacgcc  
660  
tgggccactg ctccggccga tggttccaga ggaagccgct cccttgctaa gggttcccg  
720  
gaggaggtga aggcgcccg ggctgggggg tcggcggctg aagacctccg gctgcccagc  
780  
acctccttcg cgctgaccgg ggactcggcc cacaaccaag ccatggtgca ctggtcggga  
840  
cacaacagca gcgtcatact taccctgacg aagctgtatg acttcaacct gggcagcgtg  
900  
actgagagtt cactatggag gtcgacagat tatggcacca cctatgaaaa gctgaatgac  
960  
aaagtgggtt tgaagactgt cctcagttac ctctatgtca atccaaccaa caaaaggaag  
1020  
attatgcttc tcagtgatcc tgagatggag agcagcatat tgatcagctc agacgaaggg  
1080  
gcgacctatc agaagtatcg gctcaccttc tatatccaga gcctgctctt tcatcccaag  
1140  
caagaggact ggggtgctggc ctacagtttg gatcaaaagc tctacagctc catggacttt  
1200  
ggaagacggt ggcaactcat gcatgaacgc atcacacca acagggtttta ttggtcgggtg  
1260  
gccggattgg ataaggaggc ggacctggtg cacatggagg tgcggaccac ggatggatat  
1320  
gctcactacc tcacctgcag gatccaggaa tgtgccgaga caactagaag tgggcctttt  
1380  
gcccgctcca ttgacatcag ttccttggtt gtccaggatg aatatatctt cattcaggta  
1440  
acaactagtg gaagagccag ctactacgtg tcttatcgaa gagaggcctt tgctcagata  
1500  
aagctgccta agtactcgtt gccaaaggac atgcacatca tcagtacaga cgagaaccaa  
1560  
gtatttgctg cgggtccaaga atggaaccag aatgacacgt acaacctcta catctcagac  
1620  
acgcgtggga tttacttcac tctggccatg gagaacatca agagcagcag aggtctaattg  
1680  
gggaacatca ttattgaatt gtatgaggta gcaggatatc aagggatatt tctggcaaac  
1740  
aagaagggtg acgaccaggc gaagacatac atcacttaca acaaaggcag ggattggcgc  
1800  
ctgctgcaag ctccggatgt ggacctgaga ggaagcccag tgcactgcct gctgcccttc  
1860  
tgttccttac atctgcacct gcaactctct gaaaatccat attcctcagg aagaatctct  
1920

agcaaggaga cagccccagg acttggtggtg gctacaggca acattggccc ggagctctca  
1980  
tatactgata ttggtgtggt catctcctcc gatgggggca acacatggag acagatcttt  
2040  
gatgaagagt acaatgtctg gttcctagac tggggtggtg ccctcgtggc catgaaacac  
2100  
acacctctgc cagtcaggca tttgtgggtg agttttgatg agggccactc ttgggacaag  
2160  
tatggtttca cttcggttcc tctctttggt gacggggctc tggtaggagc aggaatggag  
2220  
accacatca tgacagtttt tggccacttc agcctccgct ccgaatggca attggtgaaa  
2280  
gtggactaca aatctatctt cagccggcat tgcaccaagg aggactatca gacctggcac  
2340  
ctgctcaatc agggagagcc ttgtgtcatg ggagaaagga aaatattcaa gaaacgtaag  
2400  
ccaggagctc agtgtgccct gggccgagac cactcaggat cagtgggtctc agaaccctgt  
2460  
gtctgtgcc aattgggactt cgagtgtgac tatgggtatg agagacatgg ggagagccag  
2520  
tgtgtcccag ctttctggta caatccagca tccccatcaa aggactgcag ccttgggtcaa  
2580  
agctacctta acagcactgg gtatcggcgg attgtgtcca acaactgcac agatgggcta  
2640  
agggagaagt acaccgcaa ggcccagatg tgccctggaa aagcccctcg gggcctccat  
2700  
gtggtgacga ccgatgggcg gctggtggca gagcaggggc acaatgcaac tttcatcatc  
2760  
ctcatggagg aggggtgatct acaaaggaca aacatccagc ttgactttgg ggatgggatt  
2820  
gctgtgtcct acgcaaactt cagccccatc gaggacggca tcaagcacgt gtataagagt  
2880  
gcggggatct tccaggtgac agcctatgca gagaacaacc ttggctcaga cacagctgtc  
2940  
ctcttctgc atgtggtttg tcctgtggag catgttcac tccgagttcc atttgttgcc  
3000  
ataagaaata aggaggtcaa catcagtga gtcgtgtggc ccagtcaact ggggaccctt  
3060  
acctatttct ggtgggttcgg caatagcaca aagcctctca tcactttgga cagcagcatt  
3120  
tccttcacat tccttgacga aggaaccgac accatcacag tccaggtggc tgctgggaat  
3180  
gccctcatcc aggacacaaa agagattgca gttcatgaat atttccagtc ccagctttta  
3240  
tcattctctc ctaatctgga ttaccacaat cctgacattc ctgagtggag aaaagatatt  
3300  
ggcaatgtca tcaagcgagc tctgggttaa gtaaccagt tcccagagga ccagatcctc  
3360  
attgccgtgt ttcttgggtc cccacttca gcagagcttt tcattcttcc acccaagaac  
3420  
ctgacagaga ggaggaaagg caatgaaggg gacctggaac aaattgtaga aacactgttt  
3480  
aatgctctca accaaaattt ggtccagttt gagctgaagc cgggggtaca agtcattgtg  
3540

tatgtcacac agctgacgtt agctccattg gtggactcca gtgctgggca cagcagctca  
3600  
gccatgctta tgctattatc agtgggtatgt gttggcctgg ctgtgttttt gatctacaag  
3660  
tttaaaagga aaatcccttg gattaacatc tatgctcaag tccaacacga caaggagcag  
3720  
gagatgattg ggtcagtgag ccaaagtga aacgccccca aaatcacact cagtgacttt  
3780  
acggagcctg aggagctgct ggacaaagag ctggacacgc gggtcatagg aggcattgcc  
3840  
actattgcaa acagcgaaag cacaaaggag atccccaact gcactagtgt ttaataccag  
3900  
caagccacgt ggtcaaccac ctttctgact ttttattttt gatgattact attactatta  
3960  
ttatggaaaa attaaaatgt cttttttacc ttttgtttac caagggcccc ttcataaata  
4020  
gcaggcaaat gcctagcttt gggagaaaag ggcattctta gctgattgaa atgagacaaa  
4080  
gggaataaat ggctgtatgt gtgctaagag caaaggatgc atcttccac agcctcctcg  
4140  
ctttactctg ccattggtag cttaaagact ttctttttcc ttgtggtctc ctttttttca  
4200  
aaattgaagt tgggttggt ctttgtgaac ctctcatccc cacagcagaa tcaccaacac  
4260  
tctccgcttc ccccagcaca cacacatata acacagatca tttcccagtt agatccgcag  
4320  
gaagtaggtt ggtgggggtg gatgtagctg cagaaagcat gcacaacttt gtgaaagagg  
4380  
ccctgccttg tgcatgtcca tagtgaggct acagatggct tattgtatat aattacaatg  
4440  
taaatagctt tttatttcct aagaaataat ttaatgttta gtaaaaaaga aaacagaaaa  
4500  
aagaaagatg cgtgtgttgg cttacgcact ggccctcaga gctgaccaac ccgccaggcc  
4560  
tgctcaatgc attgggtttg gatgctctcc tgttgtctgt cacacttaac tcttgcattc  
4620  
ccttgtccat gccatagctg gtttctactt atgtatataa aggggggttg ggggaggggc  
4680  
ttctctgggg caattgataa aggaaggact ctagtgacat catagaacat ggcagtcgtt  
4740  
tttgttccaa gaatgatatg aaaggtgaag aagaggccca ctagaggctt catactgaga  
4800  
cccagatggg ggaaaacagc ttcctctcta aaaggaaaaa cttgatattt atcagtctga  
4860  
gaaaatatatt ttttctaaag aaggcagtca gtggatctta aaatgacaat ctgtttttta  
4920  
attggattct atgaaaatgc ataatgctta tggatgaattc tcaggctatt ctgagctcag  
4980  
aaaagtcccc tgggcactag gtaaagccca gtgaatgtct cttggcatgg gaggagttaa  
5040  
agagggttga agggaagagg catttgtgga attatgagtt catgcaaac tctccaggcc  
5100  
aagtaggggt ctagccttta atgatattag tcaaaggcaa ttttagcaaa gctgtgctat  
5160

ttgcttgtca gatgtacaca acttccttaa agtcaaatgt ctgccttcag ttcctttaag  
 5220  
 gtagttcttg cctctggggg gāgtggcttt caaagccttt tagctttttcc agcacctcag  
 5280  
 ccccttcaca catttacaca taccaatttt tttcaatagg gtcacgttaa gccatgctgt  
 5340  
 aagcattggt tttattttca ggcttagcct gagcacactt atttttgaaa atgatataat  
 5400  
 gtatatatat gggaggaaaag gccacatttt gtacctgtta atttttgtgg gatgttggtc  
 5460  
 ccattcttct ttgtgagaca gagagaatgt gatatagaga aatctggctg gctacagtgt  
 5520  
 agatcagtat taggaatatt tctaaagatc ctgctttttt gtttcaaggg ttaaattgggg  
 5580  
 cagacaattg caatacttgt actaaacact ggaatacaaa tgcattgactc atatctatat  
 5640  
 atacagtata tgtacatata ctgttcttgg ttttattggt ccacttgaat atttctactg  
 5700  
 taaaaaaaag acagtgggtt tgaaattggt gaaaataaat gtatttttgt acatc  
 5755

<210> 4248  
 <211> 1297  
 <212> PRT  
 <213> Homo sapiens

<400> 4248  
 His Pro Leu Asp Lys Arg Thr Gly Glu Arg Glu Leu Gly Gly Lys Ser  
 1 5 10 15  
 Gly Glu Asp Arg Arg Gly Ala Pro Ala Gly Ala Thr Ser Phe Pro Ala  
 20 25 30  
 Ala Pro Ser Pro Leu Pro Leu His Thr His Ala Arg Ser Leu Ala Gly  
 35 40 45  
 Ala Arg Thr Pro Pro Ala Pro Asp Pro His Leu Gly Gly Arg His Thr  
 50 55 60  
 Leu Gly Ser Pro Ser Arg Gly Ser Arg Ser Gly Met Glu Ala Ala Arg  
 65 70 75 80  
 Thr Glu Arg Pro Ala Gly Arg Pro Gly Ala Pro Leu Val Arg Thr Gly  
 85 90 95  
 Leu Leu Leu Leu Ser Thr Trp Val Leu Ala Gly Ala Glu Ile Thr Trp  
 100 105 110  
 Asp Ala Thr Gly Gly Pro Gly Arg Pro Ala Ala Pro Ala Ser Arg Pro  
 115 120 125  
 Pro Ala Leu Ser Pro Leu Ser Pro Arg Ala Val Ala Ser Gln Trp Pro  
 130 135 140  
 Glu Glu Leu Ala Ser Ala Arg Arg Ala Ala Val Leu Gly Arg Arg Ala  
 145 150 155 160  
 Gly Pro Glu Leu Leu Pro Gln Gln Gly Gly Gly Arg Gly Gly Glu Met  
 165 170 175  
 Gln Val Glu Ala Gly Gly Thr Ser Pro Ala Gly Glu Arg Arg Gly Arg  
 180 185 190  
 Gly Ile Pro Ala Pro Ala Lys Leu Gly Gly Ala Arg Arg Ser Arg Arg  
 195 200 205  
 Ala Gln Pro Pro Ile Thr Gln Glu Arg Gly Asp Ala Trp Ala Thr Ala



210	215	220
Pro Ala Asp Gly Ser Arg	Gly Ser Arg Pro Leu	Ala Lys Gly Ser Arg
225	230	235
Glu Glu Val Lys Ala Pro	Arg Ala Gly Gly Ser	Ala Ala Glu Asp Leu
245	250	255
Arg Leu Pro Ser Thr Ser	Phe Ala Leu Thr Gly	Asp Ser Ala His Asn
260	265	270
Gln Ala Met Val His Trp	Ser Gly His Asn Ser	Ser Val Ile Leu Ile
275	280	285
Leu Thr Lys Leu Tyr Asp	Phe Asn Leu Gly Ser	Val Thr Glu Ser Ser
290	295	300
Leu Trp Arg Ser Thr Asp	Tyr Gly Thr Thr Tyr	Glu Lys Leu Asn Asp
305	310	315
Lys Val Gly Leu Lys Thr	Val Leu Ser Tyr Leu	Tyr Val Asn Pro Thr
325	330	335
Asn Lys Arg Lys Ile Met	Leu Leu Ser Asp Pro	Glu Met Glu Ser Ser
340	345	350
Ile Leu Ile Ser Ser Asp	Glu Gly Ala Thr Tyr	Gln Lys Tyr Arg Leu
355	360	365
Thr Phe Tyr Ile Gln Ser	Leu Leu Phe His Pro	Lys Gln Glu Asp Trp
370	375	380
Val Leu Ala Tyr Ser Leu	Asp Gln Lys Leu Tyr	Ser Ser Met Asp Phe
385	390	395
Gly Arg Arg Trp Gln Leu	Met His Glu Arg Ile	Thr Pro Asn Arg Phe
405	410	415
Tyr Trp Ser Val Ala Gly	Leu Asp Lys Glu Ala	Asp Leu Val His Met
420	425	430
Glu Val Arg Thr Thr Asp	Gly Tyr Ala His Tyr	Leu Thr Cys Arg Ile
435	440	445
Gln Glu Cys Ala Glu Thr	Thr Arg Ser Gly Pro	Phe Ala Arg Ser Ile
450	455	460
Asp Ile Ser Ser Leu Val	Val Gln Asp Glu Tyr	Ile Phe Ile Gln Val
465	470	475
Thr Thr Ser Gly Arg Ala	Ser Tyr Tyr Val Ser	Tyr Arg Arg Glu Ala
485	490	495
Phe Ala Gln Ile Lys Leu	Pro Lys Tyr Ser Leu	Pro Lys Asp Met His
500	505	510
Ile Ile Ser Thr Asp Glu	Asn Gln Val Phe Ala	Ala Val Gln Glu Trp
515	520	525
Asn Gln Asn Asp Thr Tyr	Asn Leu Tyr Ile Ser	Asp Thr Arg Gly Ile
530	535	540
Tyr Phe Thr Leu Ala Met	Glu Asn Ile Lys Ser	Ser Arg Gly Leu Met
545	550	555
Gly Asn Ile Ile Ile Glu	Leu Tyr Glu Val Ala	Gly Ile Lys Gly Ile
565	570	575
Phe Leu Ala Asn Lys Lys	Val Asp Asp Gln Val	Lys Thr Tyr Ile Thr
580	585	590
Tyr Asn Lys Gly Arg Asp	Trp Arg Leu Leu Gln	Ala Pro Asp Val Asp
595	600	605
Leu Arg Gly Ser Pro Val	His Cys Leu Leu Pro	Phe Cys Ser Leu His
610	615	620
Leu His Leu Gln Leu Ser	Glu Asn Pro Tyr Ser	Ser Gly Arg Ile Ser
625	630	635
Ser Lys Glu Thr Ala Pro	Gly Leu Val Val Ala	Thr Gly Asn Ile Gly

645 650 655  
 Pro Glu Leu Ser Tyr Thr Asp Ile Gly Val Phe Ile Ser Ser Asp Gly  
 660 665 670  
 Gly Asn Thr Trp Arg Gln Ile Phe Asp Glu Glu Tyr Asn Val Trp Phe  
 675 680 685  
 Leu Asp Trp Gly Gly Ala Leu Val Ala Met Lys His Thr Pro Leu Pro  
 690 695 700  
 Val Arg His Leu Trp Val Ser Phe Asp Glu Gly His Ser Trp Asp Lys  
 705 710 715 720  
 Tyr Gly Phe Thr Ser Val Pro Leu Phe Val Asp Gly Ala Leu Val Glu  
 725 730 735  
 Ala Gly Met Glu Thr His Ile Met Thr Val Phe Gly His Phe Ser Leu  
 740 745 750  
 Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Ser  
 755 760 765  
 Arg His Cys Thr Lys Glu Asp Tyr Gln Thr Trp His Leu Leu Asn Gln  
 770 775 780  
 Gly Glu Pro Cys Val Met Gly Glu Arg Lys Ile Phe Lys Lys Arg Lys  
 785 790 795 800  
 Pro Gly Ala Gln Cys Ala Leu Gly Arg Asp His Ser Gly Ser Val Val  
 805 810 815  
 Ser Glu Pro Cys Val Cys Ala Asn Trp Asp Phe Glu Cys Asp Tyr Gly  
 820 825 830  
 Tyr Glu Arg His Gly Glu Ser Gln Cys Val Pro Ala Phe Trp Tyr Asn  
 835 840 845  
 Pro Ala Ser Pro Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn  
 850 855 860  
 Ser Thr Gly Tyr Arg Arg Ile Val Ser Asn Asn Cys Thr Asp Gly Leu  
 865 870 875 880  
 Arg Glu Lys Tyr Thr Ala Lys Ala Gln Met Cys Pro Gly Lys Ala Pro  
 885 890 895  
 Arg Gly Leu His Val Val Thr Thr Asp Gly Arg Leu Val Ala Glu Gln  
 900 905 910  
 Gly His Asn Ala Thr Phe Ile Ile Leu Met Glu Glu Gly Asp Leu Gln  
 915 920 925  
 Arg Thr Asn Ile Gln Leu Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr  
 930 935 940  
 Ala Asn Phe Ser Pro Ile Glu Asp Gly Ile Lys His Val Tyr Lys Ser  
 945 950 955 960  
 Ala Gly Ile Phe Gln Val Thr Ala Tyr Ala Glu Asn Asn Leu Gly Ser  
 965 970 975  
 Asp Thr Ala Val Leu Phe Leu His Val Val Cys Pro Val Glu His Val  
 980 985 990  
 His Leu Arg Val Pro Phe Val Ala Ile Arg Asn Lys Glu Val Asn Ile  
 995 1000 1005  
 Ser Ala Val Val Trp Pro Ser Gln Leu Gly Thr Leu Thr Tyr Phe Trp  
 1010 1015 1020  
 Trp Phe Gly Asn Ser Thr Lys Pro Leu Ile Thr Leu Asp Ser Ser Ile  
 1025 1030 1035 1040  
 Ser Phe Thr Phe Leu Ala Glu Gly Thr Asp Thr Ile Thr Val Gln Val  
 1045 1050 1055  
 Ala Ala Gly Asn Ala Leu Ile Gln Asp Thr Lys Glu Ile Ala Val His  
 1060 1065 1070  
 Glu Tyr Phe Gln Ser Gln Leu Leu Ser Phe Ser Pro Asn Leu Asp Tyr

1075	1080	1085
His Asn Pro Asp Ile Pro Glu Trp Arg Lys Asp Ile Gly Asn Val Ile		
1090	1095	1100
Lys Arg Ala Leu Val Lys Val Thr Ser Val Pro Glu Asp Gln Ile Leu		
1105	1110	1115
Ile Ala Val Phe Pro Gly Leu Pro Thr Ser Ala Glu Leu Phe Ile Leu		
1125	1130	1135
Pro Pro Lys Asn Leu Thr Glu Arg Arg Lys Gly Asn Glu Gly Asp Leu		
1140	1145	1150
Glu Gln Ile Val Glu Thr Leu Phe Asn Ala Leu Asn Gln Asn Leu Val		
1155	1160	1165
Gln Phe Glu Leu Lys Pro Gly Val Gln Val Ile Val Tyr Val Thr Gln		
1170	1175	1180
Leu Thr Leu Ala Pro Leu Val Asp Ser Ser Ala Gly His Ser Ser Ser		
1185	1190	1195
Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe		
1205	1210	1215
Leu Ile Tyr Lys Phe Lys Arg Lys Ile Pro Trp Ile Asn Ile Tyr Ala		
1220	1225	1230
Gln Val Gln His Asp Lys Glu Gln Glu Met Ile Gly Ser Val Ser Gln		
1235	1240	1245
Ser Glu Asn Ala Pro Lys Ile Thr Leu Ser Asp Phe Thr Glu Pro Glu		
1250	1255	1260
Glu Leu Leu Asp Lys Glu Leu Asp Thr Arg Val Ile Gly Gly Ile Ala		
1265	1270	1275
Thr Ile Ala Asn Ser Glu Ser Thr Lys Glu Ile Pro Asn Cys Thr Ser		
1285	1290	1295
Val		

<210> 4249  
 <211> 553  
 <212> DNA  
 <213> Homo sapiens

<400> 4249  
 nnccgggccc tccccaaaaa ggaccaggtt gtccagaaaa gtgagcagct aaaactgttt  
 60  
 ctaagaaact caactgcatc cagaacaaag attaagatga tttataaaaa tgctaaaaca  
 120  
 cccagcacgc aacatggtaa aattcgcaat gcctcaggca tcaacccgag agtaccaggc  
 180  
 ccacaggaag gcagcataat aggaccccaa acaaggagga aaagcagcct cctgaaaccg  
 240  
 accctgatat cagaaccagc agacatgggc actcagcagt tcttacaact gaatcccaat  
 300  
 ctgcaaaaagt ttagtagaga catggaagac gtaaagggga cccaagcaa gcctctagag  
 360  
 aattataaca tgttggctgg gcttgggtggc tcacgcgtgt catcgcagca ctttggggagg  
 420  
 ctgaggcagg aggatcgctt gagcccagga gttcaagacc agcctggacc acatagttag  
 480  
 acccccatct cataaaaaat aaaaaaaaaat tgaattacaa cacgaggtga caaaagcact  
 540

ggatgagatt aac  
553

<210> 4250

<211> 164

<212> PRT

<213> Homo sapiens

<400> 4250

Xaa Arg Ala Leu Pro Lys Lys Asp Gln Val Val Gln Lys Ser Glu Gln  
1 5 10 15  
Leu Lys Leu Phe Leu Arg Asn Ser Thr Ala Ser Arg Thr Lys Ile Lys  
20 25 30  
Met Ile Tyr Lys Asn Ala Lys Thr Pro Ser Thr Gln His Gly Lys Ile  
35 40 45  
Arg Asn Ala Ser Gly Ile Asn Pro Arg Val Pro Gly Pro Gln Glu Gly  
50 55 60  
Ser Ile Ile Gly Pro Gln Thr Arg Arg Lys Ser Ser Leu Leu Lys Pro  
65 70 75 80  
Thr Leu Ile Ser Glu Pro Ala Asp Met Gly Thr Gln Gln Phe Leu Gln  
85 90 95  
Leu Asn Pro Asn Leu Gln Lys Phe Ser Arg Asp Met Glu Asp Val Lys  
100 105 110  
Gly Thr Pro Ser Lys Pro Leu Glu Asn Tyr Asn Met Leu Ala Gly Leu  
115 120 125  
Gly Gly Ser Arg Val Ser Ser Gln His Phe Gly Arg Leu Arg Gln Glu  
130 135 140  
Asp Arg Leu Ser Pro Gly Val Gln Asp Gln Pro Gly Pro His Ser Glu  
145 150 155 160  
Thr Pro Ile Ser

<210> 4251

<211> 1574

<212> DNA

<213> Homo sapiens

<400> 4251

nngggggggg gggggggggg ggttaagctc cttcagtagg gtactagggc accaaaaaaa  
60  
aaaaggggcg cgcggggggg gtcccccaca caaaaaaagg gggggaaagg aattcgcccc  
120  
gggggggggc caggccctaa cccattttat ttcattccac agatgagggc aaccttaaga  
180  
gggaaggggg agatggcagg gccagcgggc gcaggaagtg ccttcccacc ccaggacct  
240  
gacacatctc gtctccctc ttttcgcac tgtgggcaca aagacacttt ttcttcgca  
300  
ggggcgggag cccctagtgc caacactgag gacgcgtgac atggtgggca ccggaaagga  
360  
ggggacttct cctgcacccc aagaagtggg ggggagattg ctgcccctat agccatatct  
420  
cggccccttc ccactcacca cccccacccc aggtgctggg ggtcccttat ttttatgcaa  
480

taactgagct tgatgggggt gggcaggggg ccagttgagc caatcaccag cctccatata  
 540  
 acagatcctg accctgaatc tcaggagctg cagatcgggg gcacctgccc tgacatcacc  
 600  
 aaacgctacc tgcgcctgac ctgtgcccc gaccggtcca ccgtgcgccc tgtggcagtt  
 660  
 ttgaaaaagt cgctgtgcat ggtcaagtgc cactggaaag agaagcagga ctacgcgttt  
 720  
 gcctgcgagc agatgaagtc gatccggcag gatctgacgg tgcagggcat ccgcaccgag  
 780  
 ttcacggtgg aggtgtacga gacccatgcc cggatcgctt tggagaaggg tgaccatgaa  
 840  
 gagtttaacc agtgccagac gcagctcaag tcgctgtacg ccgagaactt gcctggcaat  
 900  
 gtgggcgagt ttactgccta ccgaatcctc tactacatct tcaccaagaa ctcgggagac  
 960  
 atcaccacgg agctggcata cctcacacga gaactgaagg cagatccttg cgtggcccac  
 1020  
 gccttgggcat taaggacagc ctgggcccctg ggcaactacc accgcttttt ccggctctac  
 1080  
 tgccatgcac cctgcatgtc tggctacctc gtggacaagt ttgcagatcg ggagcgcaag  
 1140  
 gtgcgcccctca aggccatgat caaaacgtat gtggtgccaa gctcccttct gcctttgctc  
 1200  
 tccccatcct tccgcctcgc accgcccctc agaccagctc ctggccgcag gcctccccc  
 1260  
 gcccccaacc cttgtcctgg tccttgcttc cccatcatct ttctccattc agccctcccc  
 1320  
 tctccagttc ctcttgctct ccttggttgg caccctctgtg ttccgggtca ctcctctccc  
 1380  
 tctccccact gtccccagct cactgectct ggggectctt ctccacccca tctgtgtgtc  
 1440  
 tcttctctct gttctctctt gcctggaccc cctagttcac tccttgccct gggcttctc  
 1500  
 agaaccctga ggtctctgct ttctcagctt gtcgctgtgc tcccaccata gagaccatct  
 1560  
 agacagcctc tgg  
 1574

&lt;210&gt; 4252

&lt;211&gt; 352

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4252

Met	Gly	Val	Gly	Arg	Gly	Pro	Val	Glu	Pro	Ile	Thr	Ser	Leu	His	Ile
1				5				10						15	
Thr	Asp	Pro	Asp	Pro	Glu	Ser	Gln	Glu	Leu	Gln	Ile	Gly	Gly	Thr	Cys
		20						25					30		
Pro	Asp	Ile	Thr	Lys	Arg	Tyr	Leu	Arg	Leu	Thr	Cys	Ala	Pro	Asp	Pro
		35					40					45			
Ser	Thr	Val	Arg	Pro	Val	Ala	Val	Leu	Lys	Lys	Ser	Leu	Cys	Met	Val
	50				55						60				
Lys	Cys	His	Trp	Lys	Glu	Lys	Gln	Asp	Tyr	Ala	Phe	Ala	Cys	Glu	Gln

```
<400> 4253
nntacggctg cgagaagaca cagactgtgc aacccccaaa gcagggtctcc tcactcacccg
60
ggatagatag aactatcggc cccaattcct cagccctacc tgcaaccacc gcttgccatg
120
gtttccttgt ggggtggaggg tactttcccg ccccttggtt tcgggcttgc ccacgtggct
180
tgctctggcc atggaatgaa gcagaaacga aagcctgcc a gttctgagcc tatgccggaa
240
gacgccttgg gcggttcgc ggtccctgtg cgcttcacc ttcaccaga aggacttctc
300
tggtgcagcc gctgcttctt cagccacggc ccaaaaggat cggagcccc tggccgateg
360
```

gcaggtctgc agggagccac agagcgcagc ggccggccca gcgttcaagc ccaagcacag  
420  
gcctgcgaga accttggtcc agccaccgtt tgggatgggt gattaggact tgttgcagtg  
480  
gcggtagctc accaatccag tgcgtgcacc cgctccttta ttaggctata gagccagtgg  
540  
ctcccacagg gacctgatac aacagtgcgt taaataagga gcatattgag ctctcatgtc  
600  
gtaagccagt ggagaagtcc agggctagtg tgggggctcc ggcgggggct gtggccccc  
660  
tccgcatgga gcctccccat gggtcacagg tctcagtctt cggagccttc ggccctgcga  
720  
gcccgaacgg tccacagggc ggcgccagac cctctttcga acgccatcct ctaaagcggc  
780  
tggaacaagg ttcttgacag cctgtgcttg ggcttgaacg ctggggccggg ccgctgcgct  
840  
ctgtggctcc ctgtaggcct gcggatcggc cagggggctc cgttcctttt gggcggaggc  
900  
tgaagaagca gcggctgcac cagagaaggc cctctgggtg aagggtgggag cgcacggggc  
960  
ccgcggaacc acctaaggcg acttcagacg tgggctcgga actggcagcc ttctgtttct  
1020  
gcttcattcc aaggccagag caagccacgt gggcaaacc aaagccaggg gacaggaaag  
1080  
tattctccac ccacaacgaa accatggcaa gcggtggatg caggtacggc caatagtcta  
1140  
tctatcccg tgagtgagga gacctgctt gaggggtgca caacctggat ctgcttttac  
1200  
agtgggtgtc gtcactatga agacccaca gggcggcgcc agaccttctt tcgaacgcca  
1260  
tcctctaaag cctcggctcc aaccggt  
1287

&lt;210&gt; 4254

&lt;211&gt; 114

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4254

Met	Val	Ser	Leu	Trp	Val	Glu	Gly	Thr	Phe	Pro	Pro	Pro	Gly	Phe	Gly
1				5					10					15	
Leu	Ala	His	Val	Ala	Cys	Ser	Gly	His	Gly	Met	Lys	Gln	Lys	Arg	Lys
			20					25					30		
Pro	Ala	Ser	Ser	Glu	Pro	Met	Pro	Glu	Asp	Ala	Leu	Gly	Gly	Ser	Ala
			35					40					45		
Val	Pro	Val	Arg	Phe	His	Leu	His	Pro	Glu	Gly	Leu	Leu	Trp	Cys	Ser
			50				55				60				
Arg	Cys	Phe	Phe	Ser	His	Gly	Pro	Lys	Gly	Ser	Glu	Pro	Pro	Gly	Arg
65					70					75				80	
Ser	Ala	Gly	Leu	Gln	Gly	Ala	Thr	Glu	Arg	Ser	Gly	Arg	Pro	Ser	Val
			85					90						95	
Gln	Ala	Gln	Ala	Gln	Ala	Cys	Glu	Asn	Leu	Val	Pro	Ala	Thr	Val	Trp
			100					105						110	
Asp	Gly														

<210> 4255  
<211> 2205  
<212> DNA  
<213> Homo sapiens

<400> 4255  
cccgggcctc aaattctctg tcagaaatga agtaatggct accagccacg tcacagatga  
60  
atggatgaca caaatggaaa tgagtagcct gaacacttac attgtccgcc gttgcatagc  
120  
aacacccaat ggcgtcctca gaattttatc tgggtccctc atgggacaag cattggatcc  
180  
cactaggaaa caatggatc tccatgcagt agctaatacca ggggttgattt ctttgactgg  
240  
tccttactta gatgttgagg gagctgggta tgttgatgaca atcagtcaca caattcattc  
300  
atccagtaca cagctgtctt ctgggcacac tgtggctgtg atgggcattg acttcacact  
360  
cagatacttc taaaaagttc tgatggacct attacctgtc tgtaaccaag atgggtggcaa  
420  
caaaataagg tgcttcataa tggaggacag gggttatctg gtggcgaccc cgactctcat  
480  
cgaccccaaa ggacatgcac ctgtggagca gcagcacatc acccacaagg agcccctggg  
540  
agcaaatgat atcctcaacc accccaactt tgtaaagaaa aacctgtgca acagcttcag  
600  
tgacagaacg gtccagaggt tttataaatt caacaccagc cttgcggggg atttgacgaa  
660  
ccttgtgcat ggcagccact gttccaaata cagattagca aggatcccag gaaccaacgc  
720  
gtttgttggc attgtcaacg aaacctgcga ctctcttgcc ttctgtgcct gcagcatggt  
780  
ggaccgactc tgtctcaact gtcaccgaat ggaacaaaat gaatgtgaat gtccttgtga  
840  
gtgccctcta gaggtcaatg agtgcactgg caacctcacc aatgcagaga accgaaaccc  
900  
cagctgcgag gtccaccagg agccggtgac atacacagct attgaccctg gcctgcaaga  
960  
tgctcttcac cagtgtgtca acagcagggtg cagtcagagg ctggaaagtg gggactgttt  
1020  
tgggggtgctg gattgtgaat ggtgcatggt ggacagtgat ggaaagactc acctggacaa  
1080  
accctactgt gccccccaga aagaatgctt cgggggggatt gtgggagcca aaagtcccta  
1140  
cgttgatgac atgggagcaa taggtgatga ggtgatcaca ttaaaatgat taaaagcgcc  
1200  
cctgtgggtc ttgtggctgg agggatcatg ggatgcatca atgggttttg ttctggcggt  
1260  
gtatgcctac cgccaccaga ttcacgccc gagccatcag catatgtctc ctcttgctgc  
1320  
ccaagaaatg tcagtgcgta tgtccaacct ggagaatgac agagatgaaa gggacgacga  
1380



cagccacgaa gacagaggca tcatcagcaa cactcggttt atagctgcgg tcatcgaacg  
 1440  
 acatgcacac agtccagaaa gaaggcgccg ctactggggg cgatcaggaa cagaaagtga  
 1500  
 tcatggttac agcaccatga gcccacagga ggacagtga aatcctccat gcaacaatga  
 1560  
 ccccttgta gccgggggtcg atgtgggaaa ccatgatgag gacttagacc tggatacccc  
 1620  
 ccctcagact gctgccctac taagtcacaa gttccaccac taccggtcac accaccctac  
 1680  
 atttcatcat agccaccact tacaggcggc cgtcacggta cacactgtcg atgcagaatg  
 1740  
 ctaacaatct cctcacctcc acgccaagat gagatctggg agctacagaa tgttctggaa  
 1800  
 agaaaaagaa cgggcttaaa acccacagca agagacctcc cttgtgtttg tgctttgtgc  
 1860  
 agagttgttt gagtcatttc ctgcctgtcg acatgggtta aaacgagaga aacaacaaca  
 1920  
 cagtcacatt tgtgaagatg tgaggctggg tctgaaatgg aggggaaata agcctgatga  
 1980  
 acagacctgc cataacacta atggaaggta acagaaggcg aacctccaaa cacagagacg  
 2040  
 gaacctgcaa gtgaagctga gccagaggaa tgttccaaag agccagaagc attcagctct  
 2100  
 ccttaactgg aagagagaaa aatctgctca cccagagact ggaatgtggc acatgcagat  
 2160  
 acaaattgtg gcattgaaga ttctgctttg tttcttagcg gtacc  
 2205

&lt;210&gt; 4256

&lt;211&gt; 384

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4256

Met	Ala	Thr	Ser	His	Val	Thr	Asp	Glu	Trp	Met	Thr	Gln	Met	Glu	Met
1				5					10					15	
Ser	Ser	Leu	Asn	Thr	Tyr	Ile	Val	Arg	Cys	Ile	Ala	Thr	Pro	Asn	
			20					25				30			
Gly	Val	Leu	Arg	Ile	Tyr	Ser	Gly	Ser	Leu	Met	Gly	Gln	Ala	Leu	Asp
		35					40					45			
Pro	Thr	Arg	Lys	Gln	Trp	Tyr	Leu	His	Ala	Val	Ala	Asn	Pro	Gly	Leu
		50				55					60				
Ile	Ser	Leu	Thr	Gly	Pro	Tyr	Leu	Asp	Val	Gly	Gly	Ala	Gly	Tyr	Val
65					70					75				80	
Val	Thr	Ile	Ser	His	Thr	Ile	His	Ser	Ser	Ser	Thr	Gln	Leu	Ser	Ser
				85					90					95	
Gly	His	Thr	Val	Ala	Val	Met	Gly	Ile	Asp	Phe	Thr	Leu	Arg	Tyr	Phe
			100					105					110		
Tyr	Lys	Val	Leu	Met	Asp	Leu	Leu	Pro	Val	Cys	Asn	Gln	Asp	Gly	Gly
		115					120					125			
Asn	Lys	Ile	Arg	Cys	Phe	Ile	Met	Glu	Asp	Arg	Gly	Tyr	Leu	Val	Ala
	130					135					140				
His	Pro	Thr	Leu	Ile	Asp	Pro	Lys	Gly	His	Ala	Pro	Val	Glu	Gln	Gln

145                      150                      155                      160  
 His Ile Thr His Lys Glu Pro Leu Val Ala Asn Asp Ile Leu Asn His  
                                  165                      170                      175  
 Pro Asn Phe Val Lys Lys Asn Leu Cys Asn Ser Phe Ser Asp Arg Thr  
                                  180                      185                      190  
 Val Gln Arg Phe Tyr Lys Phe Asn Thr Ser Leu Ala Gly Asp Leu Thr  
                                  195                      200                      205  
 Asn Leu Val His Gly Ser His Cys Ser Lys Tyr Arg Leu Ala Arg Ile  
                                  210                      215                      220  
 Pro Gly Thr Asn Ala Phe Val Gly Ile Val Asn Glu Thr Cys Asp Ser  
 225                                   230                                   235                                   240  
 Leu Ala Phe Cys Ala Cys Ser Met Val Asp Arg Leu Cys Leu Asn Cys  
                                  245                                   250                                   255  
 His Arg Met Glu Gln Asn Glu Cys Glu Cys Pro Cys Glu Cys Pro Leu  
                                  260                                   265                                   270  
 Glu Val Asn Glu Cys Thr Gly Asn Leu Thr Asn Ala Glu Asn Arg Asn  
                                  275                                   280                                   285  
 Pro Ser Cys Glu Val His Gln Glu Pro Val Thr Tyr Thr Ala Ile Asp  
                                  290                                   295                                   300  
 Pro Gly Leu Gln Asp Ala Leu His Gln Cys Val Asn Ser Arg Cys Ser  
 305                                   310                                   315                                   320  
 Gln Arg Leu Glu Ser Gly Asp Cys Phe Gly Val Leu Asp Cys Glu Trp  
                                  325                                   330                                   335  
 Cys Met Val Asp Ser Asp Gly Lys Thr His Leu Asp Lys Pro Tyr Cys  
                                  340                                   345                                   350  
 Ala Pro Gln Lys Glu Cys Phe Gly Ile Val Gly Ala Lys Ser Pro  
                                  355                                   360                                   365  
 Tyr Val Asp Asp Met Gly Ala Ile Gly Asp Glu Val Ile Thr Leu Lys  
                                  370                                   375                                   380

<210> 4257  
 <211> 1541  
 <212> DNA  
 <213> Homo sapiens

<400> 4257  
 agacgtcagt gccgtcgagg agctcttcag cgctgcgtac acgtgtaccc cagttcagtt  
 60  
 ttcttgacat cttcccaaaa gtcacctgca ggctcccaa agaggtgata gacatggagc  
 120  
 tgagtgcctt gaggagtgc acagagcctg ggatggatct ttgggagttc tgcagcgaaa  
 180  
 ctttccaaag accttaccag tatttaagac gattcaatcc aaaccagac ctttaaccgg  
 240  
 ttcaagattc agaaagggtt tgccgaaggc cccccggagg aatgcctcca gcatttctctg  
 300  
 ttctactggg gggtataaaa cccatcctgg ccaaacctcc ggaactttgc tcggttctctg  
 360  
 aattatcagc tcagagattg tgaggcctct ctcttctgca atccgagttt tattggcgac  
 420  
 aactgaggg gcttcaagaa gttcgtggtg accttcatga tctttatggc aagagatttt  
 480  
 gccacaccat cactccacac ctctgaccaa agcccgggga agcacatggt caccatggat  
 540

ggggttaggg aagaagatct agcgcccttc tccctccgga agaggtggga gtcggagcct  
 600  
 caccatacgt ttttcttcaa tgacgaccac acaaccatga cattcatcgg cttccatctg  
 660  
 cagcccaaca tcaacggcag tgtcgatgcc atcagtcact tgactgggaa ggtcatcaag  
 720  
 agagacgtca tgaccaggga cctgtaccag ggctgtctgc tccagagggt gcccttcaat  
 780  
 gtcgactttg ataaactgcc cagacacaag aaacttgaga ggctctgcct gaccttaggg  
 840  
 atccccccagg ccaccgaccc cgacaaaacg tatgagctca caaccgacaa tatgcttaaa  
 900  
 atccttgcca tcgagatgcg gttccgggtgt gggatccccg ttatcatcat gggagaaact  
 960  
 ggctgtggga aaaccaggct tattaaattc cttagcgacc tgcggcgtgg tggtagcaat  
 1020  
 gctgacacca taaagctggg caaggtgcac ggaggaacaa ctgcagacat gatctactcc  
 1080  
 agagtcagggt aggctgaaaa tgtggccttc gccataaagg accaacatca gttggacacc  
 1140  
 atcttgTTTT ttgatgaagc caacacaacg gaagctataa gctgtatcaa agaagtcctg  
 1200  
 tgtgatcata tgggtgatgg ccagcctctg gctgaggact ctggcctgca tattatagct  
 1260  
 gcctgcaatc catacccgga gaactctgag gagatgatct gccgtttgga gtcagctggg  
 1320  
 ttgggctaca gggtagtat ggaggagacg gccgacaggc tgggctccat tcctctgggg  
 1380  
 tacacgtgta cgcagcgtg aagagctcct cgacggcact gacgtcctcc tttccaggat  
 1440  
 ttcaacgata tacaaatggc aggggttccg aagccacatt ttccattta tatccattaa  
 1500  
 gtattgtaaa atgaggagct tgaaaagaaa caccggaatt c  
 1541

&lt;210&gt; 4258

&lt;211&gt; 314

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4258

Met	Ile	Phe	Met	Ala	Arg	Asp	Phe	Ala	Thr	Pro	Ser	Leu	His	Thr	Ser
1				5					10					15	
Asp	Gln	Ser	Pro	Gly	Lys	His	Met	Val	Thr	Met	Asp	Gly	Val	Arg	Glu
			20						25				30		
Glu	Asp	Leu	Ala	Pro	Phe	Ser	Leu	Arg	Lys	Arg	Trp	Glu	Ser	Glu	Pro
		35					40					45			
His	Pro	Tyr	Val	Phe	Phe	Asn	Asp	Asp	His	Thr	Thr	Met	Thr	Phe	Ile
		50				55					60				
Gly	Phe	His	Leu	Gln	Pro	Asn	Ile	Asn	Gly	Ser	Val	Asp	Ala	Ile	Ser
65					70					75				80	
His	Leu	Thr	Gly	Lys	Val	Ile	Lys	Arg	Asp	Val	Met	Thr	Arg	Asp	Leu
			85					90					95		
Tyr	Gln	Gly	Leu	Leu	Leu	Gln	Arg	Val	Pro	Phe	Asn	Val	Asp	Phe	Asp

```

      100      105      110
Lys Leu Pro Arg His Lys Lys Leu Glu Arg Leu Cys Leu Thr Leu Gly
      115      120      125
Ile Pro Gln Ala Thr Asp Pro Asp Lys Thr Tyr Glu Leu Thr Thr Asp
      130      135      140
Asn Met Leu Lys Ile Leu Ala Ile Glu Met Arg Phe Arg Cys Gly Ile
      145      150      155      160
Pro Val Ile Ile Met Gly Glu Thr Gly Cys Gly Lys Thr Arg Leu Ile
      165      170      175
Lys Phe Leu Ser Asp Leu Arg Arg Gly Gly Thr Asn Ala Asp Thr Ile
      180      185      190
Lys Leu Val Lys Val His Gly Gly Thr Thr Ala Asp Met Ile Tyr Ser
      195      200      205
Arg Val Arg Glu Ala Glu Asn Val Ala Phe Ala Asn Lys Asp Gln His
      210      215      220
Gln Leu Asp Thr Ile Leu Phe Phe Asp Glu Ala Asn Thr Thr Glu Ala
      225      230      235      240
Ile Ser Cys Ile Lys Glu Val Leu Cys Asp His Met Val Asp Gly Gln
      245      250      255
Pro Leu Ala Glu Asp Ser Gly Leu His Ile Ile Ala Ala Cys Asn Pro
      260      265      270
Tyr Pro Glu Asn Ser Glu Glu Met Ile Cys Arg Leu Glu Ser Ala Gly
      275      280      285
Leu Gly Tyr Arg Val Ser Met Glu Glu Thr Ala Asp Arg Leu Gly Ser
      290      295      300
Ile Pro Leu Gly Tyr Thr Cys Thr Gln Arg
      305      310

```

&lt;210&gt; 4259

&lt;211&gt; 377

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4259

```

tctgcgacgg gacccggcgt gcccatgtgt caggtgggcg aggactacgg ggagccggcg
60
cctgaggagc cgccccgggc gccgcggccc agccgtgagc agaagtgtgt gaagtgcaag
120
gaagcgcagc ccgttgtggt gatacgagcc ggagatgcct tctgcagga ctgtttcaag
180
gccttctacg tccacaagtt cagagccatg ctgggcaaga accggctcat ctttccaggc
240
gagaaggtgc tcttggcgtg gtctgggggg ccttcgtcca gctccatggt ctggcaggtt
300
cttgagggcc tgagccaaga ttctgcaaaa agactgcgct ttgtggcagg agtcatcttt
360
gttgacgagg gagcagc
377

```

&lt;210&gt; 4260

&lt;211&gt; 125

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4260

```

Ser Ala Thr Gly Pro Gly Val Pro Met Cys Gln Val Gly Glu Asp Tyr
 1           5           10           15
Gly Glu Pro Ala Pro Glu Glu Pro Pro Ala Pro Arg Pro Ser Arg
          20          25          30
Glu Gln Lys Cys Val Lys Cys Lys Glu Ala Gln Pro Val Val Val Ile
          35          40          45
Arg Ala Gly Asp Ala Phe Cys Arg Asp Cys Phe Lys Ala Phe Tyr Val
          50          55          60
His Lys Phe Arg Ala Met Leu Gly Lys Asn Arg Leu Ile Phe Pro Gly
65          70          75          80
Glu Lys Val Leu Leu Ala Trp Ser Gly Gly Pro Ser Ser Ser Ser Met
          85          90          95
Val Trp Gln Val Leu Glu Gly Leu Ser Gln Asp Ser Ala Lys Arg Leu
          100          105          110
Arg Phe Val Ala Gly Val Ile Phe Val Asp Glu Gly Ala
          115          120          125

```

&lt;210&gt; 4261

&lt;211&gt; 592

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4261

```

acgcgttact cctaccaggt tgtagcatgc atctttttga gagagcagct gggatcgagt
60
atactcttga cttaaataatg tttgtttata aagacaaatg gagaaatcaa tttttttccc
120
tgaattctta ggagcacttt agtgaataaa gaacctgaca gtatgctggc ccacatgttt
180
aaggacaaag gtgtctgggg aaataagcaa gatcatagag gagctttctt aattgaccga
240
agtccctgagt acttcgaacc cattttgaac tacttgcgtc atggacagct cattgtaa
300
gatggcatta atttattggg tgtgttagaa gaagcaagat tttttggtat tgactcattg
360
attgaacacc tagaagtggc aataaagaat tctcaaccac cggaggatca ttcaccaata
420
tcccgaagg aatttggtccg atttttgcta gcaactccaa ccaagtcaga actgcgatgc
480
cagggtttga acttcagtgg tgctgatctt tctcgtttgg accttcgata cattaacttc
540
aaaatggcca atttaagccg ctgtaatctt gcacatgcaa atctttgctg tg
592

```

&lt;210&gt; 4262

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4262

```

Ile Leu Arg Ser Thr Leu Val Asn Lys Glu Pro Asp Ser Met Leu Ala
 1           5           10           15
His Met Phe Lys Asp Lys Gly Val Trp Gly Asn Lys Gln Asp His Arg

```

20 25 30  
 Gly Ala Phe Leu Ile Asp Arg Ser Pro Glu Tyr Phe Glu Pro Ile Leu  
 35 40 45  
 Asn Tyr Leu Arg His Gly Gln Leu Ile Val Asn Asp Gly Ile Asn Leu  
 50 55 60  
 Leu Gly Val Leu Glu Glu Ala Arg Phe Phe Gly Ile Asp Ser Leu Ile  
 65 70 75 80  
 Glu His Leu Glu Val Ala Ile Lys Asn Ser Gln Pro Pro Glu Asp His  
 85 90 95  
 Ser Pro Ile Ser Arg Lys Glu Phe Val Arg Phe Leu Leu Ala Thr Pro  
 100 105 110  
 Thr Lys Ser Glu Leu Arg Cys Gln Gly Leu Asn Phe Ser Gly Ala Asp  
 115 120 125  
 Leu Ser Arg Leu Asp Leu Arg Tyr Ile Asn Phe Lys Met Ala Asn Leu  
 130 135 140  
 Ser Arg Cys Asn Leu Ala His Ala Asn Leu Cys Cys  
 145 150 155

<210> 4263  
 <211> 7710  
 <212> DNA  
 <213> Homo sapiens

<400> 4263  
 cagaggaatc tgttcctcaa ggcattcacg gacttcctgg ccttcattggt cctctttaac  
 60  
 tacatcatcc ctgtgtccat gtacgtcacg gtcgagatgc agaagttcct cggctcttac  
 120  
 ttcattcacct gggacgaaga catgtttgac gaggagactg gcgaggggcc tctggtgaac  
 180  
 acgtcggacc tcaatgaaga gctgggacag gtggagtaca tcttcacaga caagaccggc  
 240  
 accctcacgg aaaacaacat ggagttcaag gactgctgca tcgaaggcca tgtctacgtg  
 300  
 cccacgtca tctgcaacgg gcaggtcctc ccagagtcgt caggaatcga catgattgac  
 360  
 tcgtcccccga gcgtcaacgg gagggagcgc gaggagctgt ttttccgggc cctctgtctc  
 420  
 tgccacaccg tccaggtgaa agacgatgac agcgtagacg gcccaggaa atcgccggac  
 480  
 ggggggaaat cctgtgtgta catctcatcc tcgccgacg aggtggcgct ggtcgaaggt  
 540  
 gtccagagac ttggctttac ctacctaaagg ctgaaggaca attacatgga gatattaaac  
 600  
 agggagaacc acatcgaaag gtttgaattg ctggaaattt tgagttttga ctcagtcaga  
 660  
 aggagaatga gtgtaattgt aaaatctgct acaggagaaa tttatctgtt ttgcaaagga  
 720  
 gcagattctt cgatattccc ccgagtgata gaaggcaaag ttgaccagat ccgagccaga  
 780  
 gtggagcgta acgcagtgga ggggctccga actttgtgtg ttgcttataa aaggctgac  
 840  
 caagaagaat atgaaggcat ttgtaagctg ctgcaggctg ccaaagtggc ctttcaagat  
 900

cgagagaaaa agttagcaga agcctatgag caaatagaga aagatcttac tctgcttggt  
960  
gctacagctg ttgaggaccg gctgcaggag aaagctgcag acaccatcga ggccctgcag  
1020  
aaggccggga tcaaagtctg ggttctcacg ggagacaaga tggagacggc cgcggccacg  
1080  
tgctacgcct gcaagctctt ccgcaggaac acgcagctgc tggagctgac caccaagagg  
1140  
atcgaggagc agagcctgca cgacgtcctg ttcgagctga gcaagacggt cctgcgccac  
1200  
agcgggagcc tgaccagaga caacctctcc ggactttcag cagatatgca ggactacggt  
1260  
ttaattatcg acggagctgc actgtctctg ataatgaagc ctcgagaaga cgggagttcc  
1320  
ggcaactaca gggagctctt cctggaaatc tgccggagct gcagcgcggt gctctgctgc  
1380  
cgcattggcg ccttgcagaa ggctcagatt gttaaattaa tcaaattttc aaaagagcac  
1440  
ccaatcacgt tagcaattgg cgatggtgca aatgatgtca gcatgattct ggaagcgcac  
1500  
gtgggcatag gtgtcatcgg caaggaaggc cgccaggctg ccaggaacag cgactatgca  
1560  
atcccaaagt ttaagcattt gaagaagatg ctgcttgctc acgggcattt ttattacatt  
1620  
aggatctctg agctcgtgca gtacttcttc tataagaacg tctgcttcat cttccctcag  
1680  
ttttataacc agttcttctg tgggttttca caacagactg tgcacgacac cgcgtatctg  
1740  
accctctaca acatcagctt cacctccctc cccatcctcc tgtacagcct catggagcag  
1800  
catgttggca ttgacgtgct caagagagac ccgaccctgt acagggacgt cgccaagaat  
1860  
gccctgctgc gctggcgctg gttcatctac tggacgctcc tgggactggt tgacgcactg  
1920  
gtgttcttct ttggtgctta tttcgtgttt gaaaatacaa ctgtgacaag caacgggcag  
1980  
atatttggaa actggacggt tggacgctg gtattcaccg tgatggtggt cacagttaca  
2040  
ctaaagcttg cattggacac acactactgg acttggatca accattttgt catctggggg  
2100  
tcgctgctgt tctacgttgt cttttcactt ctctggggag gagtgatctg gccgttctc  
2160  
aactaccaga ggatgtacta cgtgttcac cagatgctgt ccagcgggccc cgcttgctg  
2220  
gccatcgtgc tgctggtgac catcagcctc cttcccgacg tcctcaagaa agtcctgtgc  
2280  
cggcagctgt ggccaacagc aacagagaga gtccagacta agagccagtg cttttctgtc  
2340  
gagcagtcaa ccatctttat gctttctcag acttccagca gcctgagttt ctgatggaac  
2400  
aagagcccag gctaccagag cacctgtccc tcggccgctt ggtacagctc ccactctcag  
2460  
caggtgacac tcgcggcctg gaaggagaag gtgtccacgg agccccacc catcctcggc  
2520

ggttcccatc accactgcag ttccatccca agtcacagct gccctaggtc ccgtgtggga  
2580  
atgctcgtgt gatggatggg cctaagcctg tggagactgt gcacgtgcct cttcctggcc  
2640  
cccagcaggc aaggaggggg gtcacaggcc ttgccctcga gcatggcacc ctggccgcct  
2700  
ggaccagca ctgtggttgt tgagccacac cagtggcctc tgggcattcg gctcaacgca  
2760  
ggagggacat tctgctggcc caccctgcgc gctgtcatgc agaggccatt cctccaggcc  
2820  
tgtgtcttca cccacctgcc gtcattggcc tttgctgtca ctgggagaga agagccgtcc  
2880  
agggacccat ggtggcccac atgtggatgc cacatgctgc tgtttcctgc ttgcccggcc  
2940  
accacccatg ccctccatag ggtgaggtgg agccatggtg gtgcgtcctt tactcaacaa  
3000  
ccctccaatc cggatgctgt gggaaggggc gggtcactcg gataccatca tccctgcgga  
3060  
tgcaccgccc taccctgctc atctgggagt gggttccctg cggttacgtc caagcccgcc  
3120  
tgccctgtgt gttggggctg gctgagtttc ggtctcccca tcaccggccg cctcgtggag  
3180  
aaggcagtgc cacgtgggag gacaaggcca cgccggcagc ttccagccct gccgcagaag  
3240  
tgccaggatg tccatcagcc actcgccagg gcacggagcc gtcagtccac tgttacggga  
3300  
gaatgttgat ttgcggggtg cgagggccgg gagacagata cttggctgtg atgagcagac  
3360  
atcctctgtc ccgctggagg ggtcaacacc aagggtggtg tcgtgcacca gaacctgtct  
3420  
cgggctgacg ggggtggcac acaggacacg ggtggatccc aacaggcagc accgcacctc  
3480  
cgcccgctc ccgcactgca gctccgcccg ccgggctctg cgtctccacg tcccctcgtc  
3540  
ccatccccac gtcccctcat cccgtcacct cgtccccaca tccccttgcc ccgtcacctc  
3600  
gtcctcatgt ccccttgctc tgtaacctcg tccccacgtc ccctcgtctc atccccacgt  
3660  
cctctcgtec ccttgctccc tccccacata ccctcgtecc catgtcccca cgcagggtc  
3720  
tccttcgtct taggatctgt ccagcgctgc tctgggtggg ttagcaacct cagggtgct  
3780  
gtgataggaa gtccctgttg ttctccgtac tggcattttt atttctagaa ataatatgtg  
3840  
acatagcctt aatggctcct aaagaagaca ttctagtgtg agattcagac ttcagacgt  
3900  
gaaactgctg cctttcagga aagcaccacc aacgctggag gaggagccgg ccctcacgcc  
3960  
cgccccgcgc cacgctgtgg aacggggctc cggcaagtga aaccagagg gtgtttccga  
4020  
ggtgctcgac agtaggtatt tttggaagct cagatttcac catttgattg tataatcttt  
4080  
tacctataaa atattttatt gaagtagagg gtaaatacag ggtaagaaca gtgaacacag  
4140



tggttgggat aaaataaggt gacaaacatc acaccaaaga tgagggtagc gagcaactgg  
4200  
cttgagcaga cagaacgggg aagactccac tctgtcccga ggggccagcc gcaggcgtcc  
4260  
ccagggccac cctgccctga ggtccttggtg tggccgccct ggcttggcag ccctgcccac  
4320  
gctgcccccg caaacaatgg tgtgtgcggt tttacagccc tttttaggaa cccaatatgg  
4380  
gcataaatgt aacacctgta gcgggggcag attctctgta tgttcagtta acaaattatt  
4440  
tgtaatgtat ttttttagaa atcttaaaat tgcctttgca ctgaagtatt ttcatagctg  
4500  
tttatatctc ttttattcat ttatttaaca tactgtctaa ttttaaaaat aggtttttta  
4560  
agctttcatt ttaagttaa tgaaattttg gccactttac atttagattc tggtgagagt  
4620  
tttgactgaa tgttccaatc tctgatgaat gcgaattttc agatttgatt ttattctcta  
4680  
cacacacctc ttcttttctt ggtattttctg gtggcagtga ttagttgaac agcacattta  
4740  
aggcacgata atttgcata ctttttcttt acaatttggt gcaatttcac ctgctttcta  
4800  
tgtttcattg ttaattgcca tccttcagcc ttaaaaatag aagattctca cgtgaagggt  
4860  
tagtaagttg ggtcccagct ctgcctgtgt ggagatagtc accatgtacc tctgacaaca  
4920  
agtttttagtg tgaaagtcac taaactttta cacactccca aacgtctttt taaaaattgc  
4980  
ttgggaaatt attaaatgaa tgtgcctgat gatttgaaat agacaagggg cacgagataa  
5040  
aaaagaaaag gatgagaaga tcctcagtga atgacgttgc aggggtcttca tgcaattttc  
5100  
cacctcgag tagttagtat ttacttgctt taaactaact ttgaagcaag taatgtcaac  
5160  
tttgagcact ttgttgagtt ttgaaaaatc ttatttggtg ctgcacaggt taataaatta  
5220  
tcaatttgta attcagcatg ttggtcagag acacggtcac tgattcacac ccagtccctg  
5280  
ccacagaccg tctcagacac gcacagtggg cctgctgcat gattcacacc cagtccctgc  
5340  
cacagaccgt ctcagacacg cacagtgggc ctgctgcatg attcacaccc agtccctgcc  
5400  
acagaccgtc tcagacacgc acagtgggcc tgctgcatgc gtgttacctg gcttttggct  
5460  
ccacgctcac tcatagccat gtccacatgg gggcttgac acaggatcac tcacatatgt  
5520  
acatgtaccc accacaaacg tgcaagctcc tgcacacatg catgcacaca aacgtgtaca  
5580  
caagtgtgag ctctacacg catacacaca cacacgtgta catgcaccaa agcatgtgtg  
5640  
acctacagac atgcagaaca tgcacgtgta cacataccac agacacgcgt gtgcatgctc  
5700  
ctacacaata catatgcaca tatcatgaac agcataagtt cctacacacg gacgtgtgat  
5760

acacacatgc atgtacaggt aagcacacat gtacaagctc ctacaggctt gctctcacac  
5820  
acgtgtatgc acagcagaga gacgtatgag cttctactgc acacatgcac acacacacgc  
5880  
acacgtacat tcactacaca cgtgcagcct cctgcacacg tgcacattca tgtgtacacc  
5940  
acaaatgagt tcccagacgt gtaaacacac gtgcacacat cgtacacatg tgagctccca  
6000  
cacgtacaca cagatgcaca tggacacacc ccaaacacgc acaggctcct acacacatgc  
6060  
acacacgtgt acaccacaaa cgagctccca gacatgtaaa cacatgtctc ccacacgtga  
6120  
gctcccacac atgtacacat gcacatgtac gcaccacaaa cacatgcgca ggctcctgca  
6180  
ggcgtgaata cacacatgca cacacatata cacacacgtg ccacaaacaa gtgcacactg  
6240  
tcctgggtgc ctgcactgca tcctgcctcc ttgctgaggg gccctgtga gaggcctctg  
6300  
gatgggcatg ggaagatggg ctccctggcc cccagcccat gcctccctgg gatgaagagt  
6360  
ccccctctg gcagaatgct tgggctttgc agagcaggcc ccgggggtga agtcgcagct  
6420  
tcacttacac cagctgctct gtgagcaagg cttggtgccc tggacaaggc ccttccccctt  
6480  
tagggaggtc cagcctcgca agctgaaacc tcccctcggc tcagccctat accaggcggc  
6540  
cacagcagga ctggccacac ccacgccgca cctcatccgt gcacgcgtcg gagcacggcc  
6600  
agccttccgc cacgagccag ctgggaaggg ccgcggccgc ctaaagcccc agtcaaccca  
6660  
gcctgtgtct gagcagacag ggccaacaag caggccacac cgtctcgagg gaggaggcca  
6720  
gatgcggcca gcgtctcaa cagggtgacc atccgctcgg cttgctgagc gtttaaacia  
6780  
atgttttagac aggtgtggg gactccccctg agttgagcct tggccagggg tccggtgctg  
6840  
tcgcgggaaa cctccagcct tgtttctcaa accactcagc tcatgtgttt tgcactgact  
6900  
agtactgaat aatacaacca ctcttattta atgttagtat tatttatttg acaactcagt  
6960  
gtctaacagc ttgatatgca ggctcctgca tcctacattt ctttaggaag ttaccattt  
7020  
gtaactttaa aaacaggaaa aatatcagtt ggcaaatgca atcttttttt tttttaagct  
7080  
aaagggtgggt gaactggaat gaaaatcttt ctgatgttgt gtctataagc agccttgatg  
7140  
ggatatgtta gaagtgtcat gaaagtgtga ttctactttt gcagaaaaat ctaaagatca  
7200  
atztatatag ctttattttt tactttatca aagtatacag aattttaata tgcatatatt  
7260  
gtgtctgact taaaattata atgtctgcgt caccatttaa aatgtctgtt cattatgtaa  
7320  
tgtaataaaa gaaggctctt aaaaatgtat ttaacatgaa tggatatccat agttgtcatc  
7380

atcataaata ctggagttta tttttaaaatt attaaacata gtaggtgcat taacataaat  
 7440  
 cagtctccac acagtaacat ttaactgata attcattaat cagctttgaa aaattaaatt  
 7500  
 gttaattaaa ccaatctaac atttcagtaa agtttatttt gtatgcttct gtttttaact  
 7560  
 tttattttctg tagataaaact gactggataa tatttatattg gactttttctc tagattatct  
 7620  
 aagcaggaga cctgaatctg cttgcaataa agaataaaag tctgcttcag tttctttata  
 7680  
 aagaaactca aaaaaaaaaa aaaaaaaaaac  
 7710

<210> 4264

<211> 797

<212> PRT

<213> Homo sapiens

<400> 4264

Gln	Arg	Asn	Leu	Phe	Leu	Lys	Ala	Phe	Thr	Asp	Phe	Leu	Ala	Phe	Met
1			5						10					15	
Val	Leu	Phe	Asn	Tyr	Ile	Ile	Pro	Val	Ser	Met	Tyr	Val	Thr	Val	Glu
		20					25						30		
Met	Gln	Lys	Phe	Leu	Gly	Ser	Tyr	Phe	Ile	Thr	Trp	Asp	Glu	Asp	Met
		35				40						45			
Phe	Asp	Glu	Glu	Thr	Gly	Glu	Gly	Pro	Leu	Val	Asn	Thr	Ser	Asp	Leu
	50				55						60				
Asn	Glu	Glu	Leu	Gly	Gln	Val	Glu	Tyr	Ile	Phe	Thr	Asp	Lys	Thr	Gly
65				70					75					80	
Thr	Leu	Thr	Glu	Asn	Asn	Met	Glu	Phe	Lys	Glu	Cys	Cys	Ile	Glu	Gly
			85					90						95	
His	Val	Tyr	Val	Pro	His	Val	Ile	Cys	Asn	Gly	Gln	Val	Leu	Pro	Glu
			100					105					110		
Ser	Ser	Gly	Ile	Asp	Met	Ile	Asp	Ser	Ser	Pro	Ser	Val	Asn	Gly	Arg
		115				120						125			
Glu	Arg	Glu	Glu	Leu	Phe	Phe	Arg	Ala	Leu	Cys	Leu	Cys	His	Thr	Val
	130				135						140				
Gln	Val	Lys	Asp	Asp	Asp	Ser	Val	Asp	Gly	Pro	Arg	Lys	Ser	Pro	Asp
145				150					155					160	
Gly	Gly	Lys	Ser	Cys	Val	Tyr	Ile	Ser	Ser	Pro	Asp	Glu	Val	Ala	
			165					170					175		
Leu	Val	Glu	Gly	Val	Gln	Arg	Leu	Gly	Phe	Thr	Tyr	Leu	Arg	Leu	Lys
		180					185						190		
Asp	Asn	Tyr	Met	Glu	Ile	Leu	Asn	Arg	Glu	Asn	His	Ile	Glu	Arg	Phe
		195				200						205			
Glu	Leu	Leu	Glu	Ile	Leu	Ser	Phe	Asp	Ser	Val	Arg	Arg	Arg	Met	Ser
	210				215						220				
Val	Ile	Val	Lys	Ser	Ala	Thr	Gly	Glu	Ile	Tyr	Leu	Phe	Cys	Lys	Gly
225				230					235					240	
Ala	Asp	Ser	Ser	Ile	Phe	Pro	Arg	Val	Ile	Glu	Gly	Lys	Val	Asp	Gln
			245					250					255		
Ile	Arg	Ala	Arg	Val	Glu	Arg	Asn	Ala	Val	Glu	Gly	Leu	Arg	Thr	Leu
		260				265						270			
Cys	Val	Ala	Tyr	Lys	Arg	Leu	Ile	Gln	Glu	Glu	Tyr	Glu	Gly	Ile	Cys

275                      280                      285  
 Lys Leu Leu Gln Ala Ala Lys Val Ala Leu Gln Asp Arg Glu Lys Lys  
 290                      295                      300  
 Leu Ala Glu Ala Tyr Glu Gln Ile Glu Lys Asp Leu Thr Leu Leu Gly  
 305                      310                      315                      320  
 Ala Thr Ala Val Glu Asp Arg Leu Gln Glu Lys Ala Ala Asp Thr Ile  
 325                      330                      335  
 Glu Ala Leu Gln Lys Ala Gly Ile Lys Val Trp Val Leu Thr Gly Asp  
 340                      345                      350  
 Lys Met Glu Thr Ala Ala Ala Thr Cys Tyr Ala Cys Lys Leu Phe Arg  
 355                      360                      365  
 Arg Asn Thr Gln Leu Leu Glu Leu Thr Thr Lys Arg Ile Glu Glu Gln  
 370                      375                      380  
 Ser Leu His Asp Val Leu Phe Glu Leu Ser Lys Thr Val Leu Arg His  
 385                      390                      395                      400  
 Ser Gly Ser Leu Thr Arg Asp Asn Leu Ser Gly Leu Ser Ala Asp Met  
 405                      410                      415  
 Gln Asp Tyr Gly Leu Ile Ile Asp Gly Ala Ala Leu Ser Leu Ile Met  
 420                      425                      430  
 Lys Pro Arg Glu Asp Gly Ser Ser Gly Asn Tyr Arg Glu Leu Phe Leu  
 435                      440                      445  
 Glu Ile Cys Arg Ser Cys Ser Ala Val Leu Cys Cys Arg Met Ala Pro  
 450                      455                      460  
 Leu Gln Lys Ala Gln Ile Val Lys Leu Ile Lys Phe Ser Lys Glu His  
 465                      470                      475                      480  
 Pro Ile Thr Leu Ala Ile Gly Asp Gly Ala Asn Asp Val Ser Met Ile  
 485                      490                      495  
 Leu Glu Ala His Val Gly Ile Gly Val Ile Gly Lys Glu Gly Arg Gln  
 500                      505                      510  
 Ala Ala Arg Asn Ser Asp Tyr Ala Ile Pro Lys Phe Lys His Leu Lys  
 515                      520                      525  
 Lys Met Leu Leu Val His Gly His Phe Tyr Tyr Ile Arg Ile Ser Glu  
 530                      535                      540  
 Leu Val Gln Tyr Phe Phe Tyr Lys Asn Val Cys Phe Ile Phe Pro Gln  
 545                      550                      555                      560  
 Phe Leu Tyr Gln Phe Phe Cys Gly Phe Ser Gln Gln Thr Val His Asp  
 565                      570                      575  
 Thr Ala Tyr Leu Thr Leu Tyr Asn Ile Ser Phe Thr Ser Leu Pro Ile  
 580                      585                      590  
 Leu Leu Tyr Ser Leu Met Glu Gln His Val Gly Ile Asp Val Leu Lys  
 595                      600                      605  
 Arg Asp Pro Thr Leu Tyr Arg Asp Val Ala Lys Asn Ala Leu Leu Arg  
 610                      615                      620  
 Trp Arg Val Phe Ile Tyr Trp Thr Leu Leu Gly Leu Phe Asp Ala Leu  
 625                      630                      635                      640  
 Val Phe Phe Phe Gly Ala Tyr Phe Val Phe Glu Asn Thr Thr Val Thr  
 645                      650                      655  
 Ser Asn Gly Gln Ile Phe Gly Asn Trp Thr Phe Gly Thr Leu Val Phe  
 660                      665                      670  
 Thr Val Met Val Phe Thr Val Thr Leu Lys Leu Ala Leu Asp Thr His  
 675                      680                      685  
 Tyr Trp Thr Trp Ile Asn His Phe Val Ile Trp Gly Ser Leu Leu Phe  
 690                      695                      700  
 Tyr Val Val Phe Ser Leu Leu Trp Gly Gly Val Ile Trp Pro Phe Leu

705		710		715		720									
Asn	Tyr	Gln	Arg	Met	Tyr	Tyr	Val	Phe	Ile	Gln	Met	Leu	Ser	Ser	Gly
		725						730						735	
Pro	Ala	Trp	Leu	Ala	Ile	Val	Leu	Leu	Val	Thr	Ile	Ser	Leu	Leu	Pro
		740						745					750		
Asp	Val	Leu	Lys	Lys	Val	Leu	Cys	Arg	Gln	Leu	Trp	Pro	Thr	Ala	Thr
		755					760					765			
Glu	Arg	Val	Gln	Thr	Lys	Ser	Gln	Cys	Leu	Ser	Val	Glu	Gln	Ser	Thr
		770				775					780				
Ile	Phe	Met	Leu	Ser	Gln	Thr	Ser	Ser	Ser	Leu	Ser	Phe			
785					790					795					

<210> 4265  
 <211> 2422  
 <212> DNA  
 <213> Homo sapiens

<400> 4265  
 nnaggcgggc ctcgcggggtc cgggagcgcg gcggagacga tgcctgagat cagagtcacg  
 60  
 cccttggggg ccggccagga cgtggggcga agctgcatcc tggctctccat tgcgggcaag  
 120  
 aatgtcatgc tggactgtgg aatgcacatg ggcttcaatg acgaccgacg cttccctgac  
 180  
 ttctcctaca tcacccagaa cggccgccta acagacttcc tggactgtgt gatcattagc  
 240  
 cacttccacc tggaccactg cggggcactc ccctacttca gcgagatggg gggctacgac  
 300  
 ggccccatct acatgactca cccacccag gccatctgcc ccatcttgct ggaggactac  
 360  
 cgcaagatcg ccgtagacaa gaagggcgag gccaaacttct tcacctccca gatgatcaaa  
 420  
 gactgcatga agaaggtggg ggctgtccac ctccaccaga cgggtccagg agatgatgag  
 480  
 ctggagatca aggcctacta tgcaggccac gtgctggggg cagccatggt ccagattaaa  
 540  
 gtgggctcag agtctgtggg ctacacgggt gattataaca tgacccca cgcacactta  
 600  
 ggagctgcct ggattgacaa gtgccgcccc aacctgctca tcacagagtc cacgtacgcc  
 660  
 acgaccatcc gtgactccaa gcgctgccgg gagcgagact tcctgaagaa agtccacgag  
 720  
 accgtggagc gtgggtggaa ggtgctgata cctgtgttcg cgctgggccg cgcccaggag  
 780  
 ctctgcatcc tcctggagac cttctgggag cgcataaacc tgaaggtgcc catctacttc  
 840  
 tccacggggc tgaccgagaa ggccaaccac tactacaagc tgttcatccc ctggaccaac  
 900  
 cagaagatcc gcaagacttt tgtgcagagg aacatgtttg agttcaagca catcaaggcc  
 960  
 ttcgaccggg cttttgctga caaccagga ccgatgggtg tgtttgccac gccaggaatg  
 1020  
 ctgcacgctg ggcagtcctt gcagatcttc cggaaatggg ccggaaacga aaagaacatg  
 1080

gtcatcatgc ccggctactg cgtgcagggc accgtcggcc acaagatcct cagcgggcag  
1140  
cggaagctcg agatggaggg gcggcaggtg ctggaggtca agatgcaggt ggagtacatg  
1200  
tcattcagcg cacacgcgga cgccaagggc atcatgcagc tgggtgggcca ggcagagccg  
1260  
gagagcgtgc tgctggtgca tggcgaggcc aagaagatgg agttcctgaa gcagaagatc  
1320  
gagcaggagc tccgggtcaa ctgctacatg ccggccaatg gcgagacggg gacgctgccc  
1380  
acaagcccca gcatccccgt aggcattctcg ctggggctgc tgaagcggga gatggcgag  
1440  
gggctgctcc ctgaggccaa gaagcctcgg ctcttgcaag gcaccctgat catgaaggac  
1500  
agcaacttcc ggctggtgtc ctgagagcaa gccctcaaag agctgggtct ggctgagcac  
1560  
cagctgcgct tcacctgccg cgtgcacctg catgacacac gcaaggagca ggagacggca  
1620  
ttgcgcgtct acagccacct caagagcgtc ctgaaggacc actgtgtgca gcacctcccg  
1680  
gacggctctg tgactgtgga gtccgtctc ctccaggccg ccgccccttc tgaggaccca  
1740  
ggcaccaagg tgctgctggt ctcttgacc taccaggacg aggagctggg gagcttcctc  
1800  
acatctctgc tgaagaaggg cctccccag gcccccagct gaggccggca actcaccag  
1860  
ccgccacctc tgccctctcc cagctggaca gacctgggc ctgcacttca ggactgtggg  
1920  
tgccctgggt gaacagaccc tgcaggctcc atccctgggg acagaggcct tgtgtcacct  
1980  
gcctgccag gcagctgttt gcagctgaag aaacaaactg gtctccaggc tgtcttgcc  
2040  
ttattcctgg ttagggcagg tggctctaga cagcagtttc cagtaaaagc tgaacaaaag  
2100  
actacttggg actctcttct tgggtgtacat ggctgtgtcc tgcactgtgc cccatcccgc  
2160  
ctgggacaga gacgggcatc cagggtgctg ggacccgggc agggaggcta ctgtggagac  
2220  
caggcagcag tgctgtgggc cccaagcagc tgtgactgcc ctggcttgac cagcacaggg  
2280  
ttgggcctgg tgtggcctaa ctttggttg agtgtccagg gtcacccgtg gctcccgaac  
2340  
tgtggcccct gcagggtgca ggaggcagca ccgaggttcc cgtacagcac tgacttgagg  
2400  
aataagccgt gggctggggc ta  
2422

<210> 4266

<211> 613

<212> PRT

<213> Homo sapiens

<400> 4266

Xaa Gly Gly Pro Arg Gly Ser Gly Ser Ala Ala Glu Thr Met Pro Glu

1	5	10	15
Ile Arg Val Thr	Pro Leu Gly Ala	Gly Gln Asp Val	Gly Arg Ser Cys
20	25	30	
Ile Leu Val Ser	Ile Ala Gly Lys	Asn Val Met Leu	Asp Cys Gly Met
35	40	45	
His Met Gly Phe	Asn Asp Asp Arg	Arg Phe Pro Asp	Phe Ser Tyr Ile
50	55	60	
Thr Gln Asn Gly	Arg Leu Thr Asp	Phe Leu Asp Cys	Val Ile Ile Ser
65	70	75	80
His Phe His Leu	Asp His Cys Gly	Ala Leu Pro Tyr	Phe Ser Glu Met
85	90	95	
Val Gly Tyr Asp	Gly Pro Ile Tyr	Met Thr His Pro	Thr Gln Ala Ile
100	105	110	
Cys Pro Ile Leu	Leu Glu Asp Tyr	Arg Lys Ile Ala	Val Asp Lys Lys
115	120	125	
Gly Glu Ala Asn	Phe Phe Thr Ser	Gln Met Ile Lys	Asp Cys Met Lys
130	135	140	
Lys Val Val Ala	Val His Leu His	Gln Thr Val Gln	Val Asp Asp Glu
145	150	155	160
Leu Glu Ile Lys	Ala Tyr Tyr Ala	Gly His Val Leu	Gly Ala Ala Met
165	170	175	
Phe Gln Ile Lys	Val Gly Ser Glu	Ser Val Val Tyr	Thr Gly Asp Tyr
180	185	190	
Asn Met Thr Pro	Asp Arg His Leu	Gly Ala Ala Trp	Ile Asp Lys Cys
195	200	205	
Arg Pro Asn Leu	Leu Ile Thr Glu	Ser Thr Tyr Ala	Thr Thr Ile Arg
210	215	220	
Asp Ser Lys Arg	Cys Arg Glu Arg	Asp Phe Leu Lys	Lys Val His Glu
225	230	235	240
Thr Val Glu Arg	Gly Gly Lys Val	Leu Ile Pro Val	Phe Ala Leu Gly
245	250	255	
Arg Ala Gln Glu	Leu Cys Ile Leu	Leu Glu Thr Phe	Trp Glu Arg Met
260	265	270	
Asn Leu Lys Val	Pro Ile Tyr Phe	Ser Thr Gly Leu	Thr Glu Lys Ala
275	280	285	
Asn His Tyr Tyr	Lys Leu Phe Ile	Pro Trp Thr Asn	Gln Lys Ile Arg
290	295	300	
Lys Thr Phe Val	Gln Arg Asn Met	Phe Glu Phe Lys	His Ile Lys Ala
305	310	315	320
Phe Asp Arg Ala	Phe Ala Asp Asn	Pro Gly Pro Met	Val Val Phe Ala
325	330	335	
Thr Pro Gly Met	Leu His Ala Gly	Gln Ser Leu Gln	Ile Phe Arg Lys
340	345	350	
Trp Ala Gly Asn	Glu Lys Asn Met	Val Ile Met Pro	Gly Tyr Cys Val
355	360	365	
Gln Gly Thr Val	Gly His Lys Ile	Leu Ser Gly Gln	Arg Lys Leu Glu
370	375	380	
Met Glu Gly Arg	Gln Val Leu Glu	Val Lys Met Gln	Val Glu Tyr Met
385	390	395	400
Ser Phe Ser Ala	His Ala Asp Ala	Lys Gly Ile Met	Gln Leu Val Gly
405	410	415	
Gln Ala Glu Pro	Glu Ser Val Leu	Leu Val His Gly	Glu Ala Lys Lys
420	425	430	
Met Glu Phe Leu	Lys Gln Lys Ile	Glu Gln Glu Leu	Arg Val Asn Cys

435 440 445  
 Tyr Met Pro Ala Asn Gly Glu Thr Val Thr Leu Pro Thr Ser Pro Ser  
 450 455 460  
 Ile Pro Val Gly Ile Ser Leu Gly Leu Leu Lys Arg Glu Met Ala Gln  
 465 470 475 480  
 Gly Leu Leu Pro Glu Ala Lys Lys Pro Arg Leu Leu His Gly Thr Leu  
 485 490 495  
 Ile Met Lys Asp Ser Asn Phe Arg Leu Val Ser Ser Glu Gln Ala Leu  
 500 505 510  
 Lys Glu Leu Gly Leu Ala Glu His Gln Leu Arg Phe Thr Cys Arg Val  
 515 520 525  
 His Leu His Asp Thr Arg Lys Glu Gln Glu Thr Ala Leu Arg Val Tyr  
 530 535 540  
 Ser His Leu Lys Ser Val Leu Lys Asp His Cys Val Gln His Leu Pro  
 545 550 555 560  
 Asp Gly Ser Val Thr Val Glu Ser Val Leu Leu Gln Ala Ala Ala Pro  
 565 570 575  
 Ser Glu Asp Pro Gly Thr Lys Val Leu Leu Val Ser Trp Thr Tyr Gln  
 580 585 590  
 Asp Glu Glu Leu Gly Ser Phe Leu Thr Ser Leu Leu Lys Lys Gly Leu  
 595 600 605  
 Pro Gln Ala Pro Ser  
 610

<210> 4267  
 <211> 2230  
 <212> DNA  
 <213> Homo sapiens

<400> 4267  
 gccggcgcgc ccgttgggca ctgggggacg cgggcgcgctc aggtgaagac tgggggctgc  
 60  
 aggcgcgcta ggagaactat gccatttttg ggtcaggact ggagatctcc tggatggagt  
 120  
 tggattaaga cagaagatgg ctggaagaga tgtgaatctt gtagtcagaa acttgaaaga  
 180  
 gagaataacc attgtaacat cagtcacagc attatcttaa atagtgaaga tggagaaata  
 240  
 ctcaataatg aagagcatga atatgcatcc aaaaaaagga aaaaggacca ttttagaaat  
 300  
 gacacaaata ctcaaagttt ttatcatgaa aaatggatct atgtccataa agaaagcaca  
 360  
 aaagaaaaggc atggctattg caccctggga gaaaccttta atcgggttaga cttctcaagt  
 420  
 gcaattcaag atatccgaag gttcaattat gtggtcaaac tgttgcagct aattgcaaaa  
 480  
 tcccagttaa cttcattgag tggcgtggca cagaagaatt acttcaacat tttggataaa  
 540  
 atcgttcaaa aggttcttga tgaccaccac aatcctcgct taatcaaaga tcttctgcaa  
 600  
 gacctaagct ctaccctcnt gcattcttat tagaggagta ggggaagtctg tattagtggg  
 660  
 aaacatcaat atttggattt gccgattaga aactattctc gcctggcaac aacagctaca  
 720



ggatcttcag atgactaagc aagtaacaat ggctcacc cagtgacct tcctctgcac  
780  
atgctgaaca acatcctata ccggttctca gacggatggg acatcatcac cttaggccag  
840  
gtgacccccca cgttgtatat gcttagtgaa gacagacagc tgtggaagaa gctttgtcag  
900  
taccatTTTTg ctgaaaagca gttttgtaga catttgatcc tttcagaaaa aggtcatatt  
960  
gaatggaagt tgatgtactt tgcacttcag aaacattacc cagcgaagga gcagtacgga  
1020  
gacacactgc atttctgtcg gcactgcagc attctctttt ggaaggactc aggacacccc  
1080  
tgcacgcggc cgaccctgac agctgcttca cgcgtgtctc cgcagcactt catcgacctc  
1140  
ttcaagtttt aagggctgcc cctgccatcc ctattggaga ttgtgaatcc tgctgtctgt  
1200  
gcagggtcga tagtgagtgt tctgtgaggt ggggtggagac tcctcggaag ccctgcttc  
1260  
cagaaagcct gggaagaact gcccttctgc aaagggggga ctgcatggtt gcattttcat  
1320  
cactgaaagt cagaggccaa ggaaatcatt tctacttctt taaaaactcc ttctaagcat  
1380  
attaaaaatgt gaaattttgc gtactctctc tctctatata tatagttcaa aaatacttta  
1440  
ggtggtcagc tccacattct ttgttgacgt gacactaacg gccaataata tgcttcttaa  
1500  
ttatcaaatt atagtttccc aattgggaaa ctaattgggg gtgggttaca aaacatttga  
1560  
tccttgtaaa tacattgtac agaatattta ttttttctca aaatgcattt taactactac  
1620  
attggctgtg ccaaagagt cctctttgaa tagaaagtga acccagggca atgacagcca  
1680  
ttcttgtctt agggattatg gatcggggta tgaattgtgc acacgcagcc caacaacggg  
1740  
cagtggctctc tgtggctcct aggcattccag cacaggttct ggcagggcac ccctgctggg  
1800  
gttgggggct ggtctgtgca taatcctgga ctgtgatggg aacagcccag tgcagtctaa  
1860  
acttcaattg tgttgaaact actttaatag acaaagtaat aaatcatgtt tatctattga  
1920  
tttaaaactc atcagttttg catcctactg agaaatgtta gtgattttga tacttaaatc  
1980  
cttaaaaagat tgcttcgttt ttaaaataac gcatgtccat tttagaaaat tagaaaatca  
2040  
gtcccaccac ccaaagatta ttgtgcatgc tgaaaagagt atgaaaaatc ccctcagcag  
2100  
gcataggata gaaacgtatt gttgtatatt tccatttttg aatagggtca aggagcctaa  
2160  
gcaaatcatt tctacttttt cctttaagca taataataaa agtatacttt tatggcggtta  
2220  
taaaacaaca  
2230

&lt;210&gt; 4268

<211> 210  
 <212> PRT  
 <213> Homo sapiens

<400> 4268  
 Ala Gly Ala Pro Val Gly His Trp Gly Thr Arg Ala Arg Gln Val Lys  
 1 5 10 15  
 Thr Gly Gly Cys Arg Arg Ala Arg Arg Thr Met Pro Phe Leu Gly Gln  
 20 25 30  
 Asp Trp Arg Ser Pro Gly Trp Ser Trp Ile Lys Thr Glu Asp Gly Trp  
 35 40 45  
 Lys Arg Cys Glu Ser Cys Ser Gln Lys Leu Glu Arg Glu Asn Asn His  
 50 55 60  
 Cys Asn Ile Ser His Ser Ile Ile Leu Asn Ser Glu Asp Gly Glu Ile  
 65 70 75 80  
 Leu Asn Asn Glu Glu His Glu Tyr Ala Ser Lys Lys Arg Lys Lys Asp  
 85 90 95  
 His Phe Arg Asn Asp Thr Asn Thr Gln Ser Phe Tyr His Glu Lys Trp  
 100 105 110  
 Ile Tyr Val His Lys Glu Ser Thr Lys Glu Arg His Gly Tyr Cys Thr  
 115 120 125  
 Leu Gly Glu Thr Phe Asn Arg Leu Asp Phe Ser Ser Ala Ile Gln Asp  
 130 135 140  
 Ile Arg Arg Phe Asn Tyr Val Val Lys Leu Leu Gln Leu Ile Ala Lys  
 145 150 155 160  
 Ser Gln Leu Thr Ser Leu Ser Gly Val Ala Gln Lys Asn Tyr Phe Asn  
 165 170 175  
 Ile Leu Asp Lys Ile Val Gln Lys Val Leu Asp Asp His His Asn Pro  
 180 185 190  
 Arg Leu Ile Lys Asp Leu Leu Gln Asp Leu Ser Ser Thr Leu Xaa His  
 195 200 205  
 Ser Tyr  
 210

<210> 4269  
 <211> 5748  
 <212> DNA  
 <213> Homo sapiens

<400> 4269  
 gcttccttca cagggggaag aaccaacaac gcagagaccg tgggaaagag cccagcctat  
 60  
 cgaaggtgct caatgaacag gagccgcgct atcgctccaga gaggacgcgt gctgccgcct  
 120  
 cccgccccctc ttgacacgac gaacctggcc ggccgcagaa cgctccaggg ccgagcgaag  
 180  
 atggcctcgg tgccggtgta ttgcctctgc cggctgcctt acgatgtgac ccgcttcatg  
 240  
 atcgagtgtg acatgtgccca ggactgggtt catggcagtt gtgttggtgt tgaagaggag  
 300  
 aaggctgctg acattgacct ctaccactgc cccaactgtg aagtcttgca tgggccccctcc  
 360  
 attatgaaaa aacgccgtgg atcttcaaag gggcatgata cacacaaggg gaaaccagtg  
 420

aagaccggga gccctacgtt cgtcagagag ctccggagta ggacttttga cagctcagat  
480  
gaagtgatcc tgaagcccac tggaaatcaa ctgaccgtgg aattcctgga agaaaatagc  
540  
ttcagtgtgc ccacccctgg cctgaagaag gatgggttgg gcatgacgct gccctcgcca  
600  
tcattcactg tgagggatgt tgaacactat gttgggttctg acaaagagat tgatgtgatt  
660  
gatgtgaccc gccaggctga ctgcaagatg aagcttggtg attttgtgaa atactattac  
720  
agcgggaaga gggagaaagt cctcaatgtc attagtttgg aattctctga taccagactt  
780  
tctaaccctg tggagacacc gaagattgtt cgaaagctgt catgggtcga aaacttggtg  
840  
ccagaggaat gtgtctttga gagaccatgt gtacagaagt actgcctcat gagtgtgcga  
900  
gatagctata cagactttca cattgacttt ggtggcacct ctgtctggta ccatgtactc  
960  
aagggtgaaa agatcttcta cctgatccgc ccaacaaatg ccaatctgac tctctttgag  
1020  
tgctggagca gttcctctaa tcagaatgag atgttctttg gggaccagggt ggacaagtgc  
1080  
tacaagtgtt ccgttaagca aggacagaca cttttcattc ccacagggtg gatccatgct  
1140  
gtgctgacgc ctgtggactg ccttgccctt ggagggaact tcttacacag ccttaacatc  
1200  
gagatgcagc tcaaagccta tgagattgag aagcggctga gcacagcaga cctcttcaga  
1260  
ttccccaaact ttgagaccat ctgttggtat gtgggaaagc acatcctgga catctttcgc  
1320  
ggtttgcgag agaacaggag acaccctgcc tctacctgg tccatgggtg caaagccttg  
1380  
aacttggcct ttagagcctg gacaaggaaa gaagctctgc cagaccatga ggatgagatc  
1440  
ccggagacag tgcgaaccgt acagctcatt aaagatctgg ccaggagat ccgcctgggtg  
1500  
gaagacatct tccaacagaa cgttggggaag acgagcaata tctttgggct gcagaggatc  
1560  
ttcccagccg gctccattcc cctaaccagg ccagcccatt ccacttcagt gtccatgtcc  
1620  
aggctgtcac tgccctcaa aaatggttca aagaagaaag gcctgaagcc caaggaactc  
1680  
ttcaagaagg cagagcgaaa gggcaaggag agttcagcct tggggcctgc tggccagttg  
1740  
agctataatc tcatggacac atacagtcac caggcactga agacaggctc tttccagaaa  
1800  
gcaaagtcca acatcactgg tgctgcttg aatgactcag atgacgactc accagacttg  
1860  
gaccttgatg gaaatgagag cccattggcc ctattgatgt ctaacggcag tacgaaaagg  
1920  
gtgaagagtt tatccaaatc tcggcgaaac aagatagcaa agaaggtaga caaggctagg  
1980  
ctgatggcag aacaggatg ggaagacgaa tttgacttgg attcagatga tgagctgcag  
2040

attgacgaga gattgggaaa ggagaaggcg accctgataa taagaccaaa atttccccgg  
2100  
aaattgcccc gtgcgaagcc ttgctctgac cccaaccgag ttcgtgaacc aggagaagtt  
2160  
gagtttgaca ttgaggagga ctatacaaca gatgaggaca tgggtggaagg ggttgaaggc  
2220  
aagcttgga atggtagtgg cgctgggtggc attcttgatc tgctcaaggc cagcaggcag  
2280  
gtggggggac ctgactatgc tgccctcacc gaggccccag cttctcccag cactcaggag  
2340  
gccatccagg gcatgctgtg catggccaac ctgcagtcct catcgtcctc accggctacc  
2400  
tctagcctgc aggcctggtg gactggggga caggatcgaa gcagtgggag ctccagcagt  
2460  
gggctgggca cagtgtctaa cagtccctgt tcccagcgca cccagggaa gcggcccatc  
2520  
aagcggccag catactggag aaccgagagc gaggaggagg aggagaacgc cagtctggat  
2580  
gaacaggaca gcttgggagc gtgcttcaag gatgcagagt atatctatcc ttactggag  
2640  
tctgatgatg atgaccctgc tttgaaatct cgacccaaga aaaagaagaa ttcagatgat  
2700  
gtcccatgga gtcctaaagc ccgctgacc ccaactctgc cgaagcagga ccgtcctgtg  
2760  
cgtgagggga cccgggtagc ctctattgag acaggtttgg ctgcagcagc tgcaaagctg  
2820  
gcccagcagg agctacagaa ggcccaaaag aagaaatata tcaagaagaa gcctttgctg  
2880  
aaggaggtag aacagcctcg cctcaagac tccaatctca gtctgacagt accagcccc  
2940  
actgtggctg ccacaccaca acttgtcacc tctcctcac cctgcctcc tctgagcct  
3000  
aaacaagagg cctgtcagg aagtctcgt gaccatgagt acaccgctcg tccaatgcc  
3060  
tttggcatgg cccaggcaaa ccgagcacc acacctatgg ccccgggtgt cttcttgacc  
3120  
cagcggcgcc cttcagttgg ctcccagagc aatcaggcag gacaaggaaa gcgtcccaaa  
3180  
aagggcctgg ccacagcaaa gcagagactc ggccgtatcc tgaaaatcca cagaaatggc  
3240  
aaactacttc tgtgagccct cctgtgtccc acccctcacc cctttacccc cattgccttc  
3300  
tccattgtca actcttgggg cactcctgga tcctatctgc cctggacaag gtgctgaggt  
3360  
gcattgtcct gctttcttgg gacttaccaa aggcacggac cctccaccg actccttcta  
3420  
gttccttcc ccactttcac tagagcatcc tgccctgect ctccactgag gagcaggtaa  
3480  
atgggagagg tttccagctg actagaacct tcttttctac tcgtccaaac cactcccgtc  
3540  
acctgccttg tctgttcttt attcttcac ccccgctaga gctggaaggc aggatgagga  
3600  
gaggatatgaa ggagcctgag ccatgaagtg ggaagcccag tgcttgacac tttctgcaac  
3660

tctagcccta tatccagaag cctgcccacc tccaccatt ctgtttgccc catttcccca  
3720  
gtccagtga catgccccac ctccagactt gctcatggga gaaggctgtg gtctctgccc  
3780  
cctcttgcca aatgcttcat ggaaatgaag aggaaggcct agagcctcct tctgccccca  
3840  
ctgtgggcca tttccagaag tggcctagaa atgccaactt cacttacctt tcaaaagaaa  
3900  
ggtgattcct atcacttgtc aaggtaggga gaggtcagat gcccagcct ttgaccacgg  
3960  
ttttgtagcc tgttgaggga agctactttt agctggctac acatgaggcc acttgtttta  
4020  
gggtgagctc cagggatttg cctggatttt gaaatcatgt agaacattat ccacgtggct  
4080  
gtggctgtgg ctgtggctgg gccctggcag gtggaaaacc atctcccaga aacctgaaag  
4140  
cacctgcca tgacgcagat aacctggcc ctacagcctg cttgctccgc ctataccaca  
4200  
gagcacagcc tggacattat ggaggggtgtg gcgggacggc ccacacctgg gtccctccatc  
4260  
gggaactttt catgcttctt tctccacctg aggtcttggt ctgaagaaga cctcaggact  
4320  
cacatcttca ctctggggcc tttgcacttc cagacgacag gtcacgttc aagcagaatg  
4380  
cagacaggcc attcacgagc ccaagttgaa gagaagagac gcccatccgt gaaggagcag  
4440  
accatccatc cgatccctcc ctccccctgt ccttccttcg tggattgtct ccattgtcca  
4500  
gacagtgccc ccacctccca ccgccttgcc tctactggcaa tctggactcg atggagaaca  
4560  
tccccccacc tccatttgge actacccaag tggagtgtac ccttgccctt tccacctgta  
4620  
ccaccactc caacctcacc ccagcttgcc caatgcttct ggggaattta atagctacca  
4680  
tgcaggccac aggggaatttg tgaggcttct tttgtcatct ttgtatctcc agtttgtctt  
4740  
tcttttctcc atagccctgc ctctacttct cttccttgga atcaggggtt cctttagccc  
4800  
atttgcttct tctaccttgg ggaccccagg ggccaagcag ttctccatct agtcacacca  
4860  
aaggcaaaaa gcctggctac ctcccccta gcacgtgagt ccctactccc ctccccctg  
4920  
tttctgcccc gctttgctta ttttggggat ttcaaggcag cagagggtag tgaggggaga  
4980  
gcaggagaag cctctgtcct gtataggcaa ctgcctgact atgcggtgac tgctgtaacc  
5040  
aagatcaggt cccagccct tttgtccatt aacaccctt cttgatcttt caaaggcagc  
5100  
taattgctag caaatcccc cgattccggc cttttccctc tatttctttg ttagaagttt  
5160  
tctgtggagc tgaaaccag cctctgtttg actgggttct atttagctta gttgggttct  
5220  
tagagcccc tgtttgttgt tttgtgttgt ttccaatgaa aagcaagttt accctcagag  
5280

ttatgctttt ccaaagaggc tgatgtcttt gtttttgttt tttttaatgt ttcaggttct  
 5340  
 aagtgaagtg agttggggag ggggtgggag tgtagtaat caaggtttag aacaccatga  
 5400  
 gatagttacc cctgatctcc agtccttagc tgggggctgg acagggggaa gggagagagg  
 5460  
 atttctattc acctttaata tttttttaca aaaaaagcaa acaatttaaa aacaagccca  
 5520  
 ccgcttctgt acatgtctaa atatattttt agaagtgggt aggattgtga atttctgatg  
 5580  
 cagggccttt ttataaatag gttagggtag catcattcag acttctctgt tgtttttgtc  
 5640  
 cctgtctttt tcttatgttg tgttactaat gtaatttata ttttttttag atcctccctt  
 5700  
 tcctatagag ataaaagtga tttatcttgg caaaaaaaaa aaaaaaaaaa  
 5748

<210> 4270

<211> 1084

<212> PRT

<213> Homo sapiens

<400> 4270

Ala	Ser	Phe	Thr	Gly	Gly	Arg	Thr	Asn	Asn	Ala	Glu	Thr	Val	Gly	Lys	1	5	10	15
Ser	Pro	Ala	Tyr	Arg	Arg	Cys	Ser	Met	Asn	Arg	Ser	Arg	Ala	Ile	Val	20	25	30	
Gln	Arg	Gly	Arg	Val	Leu	Pro	Pro	Pro	Ala	Pro	Leu	Asp	Thr	Thr	Asn	35	40	45	
Leu	Ala	Gly	Arg	Arg	Thr	Leu	Gln	Gly	Arg	Ala	Lys	Met	Ala	Ser	Val	50	55	60	
Pro	Val	Tyr	Cys	Leu	Cys	Arg	Leu	Pro	Tyr	Asp	Val	Thr	Arg	Phe	Met	65	70	75	80
Ile	Glu	Cys	Asp	Met	Cys	Gln	Asp	Trp	Phe	His	Gly	Ser	Cys	Val	Gly	85	90	95	
Val	Glu	Glu	Glu	Lys	Ala	Ala	Asp	Ile	Asp	Leu	Tyr	His	Cys	Pro	Asn	100	105	110	
Cys	Glu	Val	Leu	His	Gly	Pro	Ser	Ile	Met	Lys	Lys	Arg	Arg	Gly	Ser	115	120	125	
Ser	Lys	Gly	His	Asp	Thr	His	Lys	Gly	Lys	Pro	Val	Lys	Thr	Gly	Ser	130	135	140	
Pro	Thr	Phe	Val	Arg	Glu	Leu	Arg	Ser	Arg	Thr	Phe	Asp	Ser	Ser	Asp	145	150	155	160
Glu	Val	Ile	Leu	Lys	Pro	Thr	Gly	Asn	Gln	Leu	Thr	Val	Glu	Phe	Leu	165	170	175	
Glu	Glu	Asn	Ser	Phe	Ser	Val	Pro	Ile	Leu	Val	Leu	Lys	Lys	Asp	Gly	180	185	190	
Leu	Gly	Met	Thr	Leu	Pro	Ser	Pro	Ser	Phe	Thr	Val	Arg	Asp	Val	Glu	195	200	205	
His	Tyr	Val	Gly	Ser	Asp	Lys	Glu	Ile	Asp	Val	Ile	Asp	Val	Thr	Arg	210	215	220	
Gln	Ala	Asp	Cys	Lys	Met	Lys	Leu	Gly	Asp	Phe	Val	Lys	Tyr	Tyr	Tyr	225	230	235	240
Ser	Gly	Lys	Arg	Glu	Lys	Val	Leu	Asn	Val	Ile	Ser	Leu	Glu	Phe	Ser				

				245					250					255			
Asp	Thr	Arg	Leu	Ser	Asn	Leu	Val	Glu	Thr	Pro	Lys	Ile	Val	Arg	Lys		
			260					265					270				
Leu	Ser	Trp	Val	Glu	Asn	Leu	Trp	Pro	Glu	Glu	Cys	Val	Phe	Glu	Arg		
		275					280					285					
Pro	Asn	Val	Gln	Lys	Tyr	Cys	Leu	Met	Ser	Val	Arg	Asp	Ser	Tyr	Thr		
	290				295						300						
Asp	Phe	His	Ile	Asp	Phe	Gly	Gly	Thr	Ser	Val	Trp	Tyr	His	Val	Leu		
305				310						315					320		
Lys	Gly	Glu	Lys	Ile	Phe	Tyr	Leu	Ile	Arg	Pro	Thr	Asn	Ala	Asn	Leu		
			325						330					335			
Thr	Leu	Phe	Glu	Cys	Trp	Ser	Ser	Ser	Ser	Asn	Gln	Asn	Glu	Met	Phe		
		340						345					350				
Phe	Gly	Asp	Gln	Val	Asp	Lys	Cys	Tyr	Lys	Cys	Ser	Val	Lys	Gln	Gly		
	355					360						365					
Gln	Thr	Leu	Phe	Ile	Pro	Thr	Gly	Trp	Ile	His	Ala	Val	Leu	Thr	Pro		
	370				375					380							
Val	Asp	Cys	Leu	Ala	Phe	Gly	Gly	Asn	Phe	Leu	His	Ser	Leu	Asn	Ile		
385				390					395						400		
Glu	Met	Gln	Leu	Lys	Ala	Tyr	Glu	Ile	Glu	Lys	Arg	Leu	Ser	Thr	Ala		
			405					410						415			
Asp	Leu	Phe	Arg	Phe	Pro	Asn	Phe	Glu	Thr	Ile	Cys	Trp	Tyr	Val	Gly		
	420							425					430				
Lys	His	Ile	Leu	Asp	Ile	Phe	Arg	Gly	Leu	Arg	Glu	Asn	Arg	Arg	His		
	435				440							445					
Pro	Ala	Ser	Tyr	Leu	Val	His	Gly	Gly	Lys	Ala	Leu	Asn	Leu	Ala	Phe		
	450				455						460						
Arg	Ala	Trp	Thr	Arg	Lys	Glu	Ala	Leu	Pro	Asp	His	Glu	Asp	Glu	Ile		
465				470					475						480		
Pro	Glu	Thr	Val	Arg	Thr	Val	Gln	Leu	Ile	Lys	Asp	Leu	Ala	Arg	Glu		
			485					490						495			
Ile	Arg	Leu	Val	Glu	Asp	Ile	Phe	Gln	Gln	Asn	Val	Gly	Lys	Thr	Ser		
		500						505					510				
Asn	Ile	Phe	Gly	Leu	Gln	Arg	Ile	Phe	Pro	Ala	Gly	Ser	Ile	Pro	Leu		
	515					520						525					
Thr	Arg	Pro	Ala	His	Ser	Thr	Ser	Val	Ser	Met	Ser	Arg	Leu	Ser	Leu		
	530				535						540						
Pro	Ser	Lys	Asn	Gly	Ser	Lys	Lys	Lys	Gly	Leu	Lys	Pro	Lys	Glu	Leu		
545				550					555						560		
Phe	Lys	Lys	Ala	Glu	Arg	Lys	Gly	Lys	Glu	Ser	Ser	Ala	Leu	Gly	Pro		
			565						570					575			
Ala	Gly	Gln	Leu	Ser	Tyr	Asn	Leu	Met	Asp	Thr	Tyr	Ser	His	Gln	Ala		
		580						585					590				
Leu	Lys	Thr	Gly	Ser	Phe	Gln	Lys	Ala	Lys	Phe	Asn	Ile	Thr	Gly	Ala		
	595					600						605					
Cys	Leu	Asn	Asp	Ser	Asp	Asp	Asp	Ser	Pro	Asp	Leu	Asp	Leu	Asp	Gly		
	610				615						620						
Asn	Glu	Ser	Pro	Leu	Ala	Leu	Leu	Met	Ser	Asn	Gly	Ser	Thr	Lys	Arg		
625				630					635						640		
Val	Lys	Ser	Leu	Ser	Lys	Ser	Arg	Arg	Thr	Lys	Ile	Ala	Lys	Lys	Val		
			645					650						655			
Asp	Lys	Ala	Arg	Leu	Met	Ala	Glu	Gln	Val	Met	Glu	Asp	Glu	Phe	Asp		
		660					665					670					
Leu	Asp	Ser	Asp	Asp	Glu	Leu	Gln	Ile	Asp	Glu	Arg	Leu	Gly	Lys	Glu		

675                      680                      685  
 Lys Ala Thr Leu Ile Ile Arg Pro Lys Phe Pro Arg Lys Leu Pro Arg  
 690                      695                      700  
 Ala Lys Pro Cys Ser Asp Pro Asn Arg Val Arg Glu Pro Gly Glu Val  
 705                      710                      715                      720  
 Glu Phe Asp Ile Glu Glu Asp Tyr Thr Thr Asp Glu Asp Met Val Glu  
 725                      730                      735  
 Gly Val Glu Gly Lys Leu Gly Asn Gly Ser Gly Ala Gly Gly Ile Leu  
 740                      745                      750  
 Asp Leu Leu Lys Ala Ser Arg Gln Val Gly Gly Pro Asp Tyr Ala Ala  
 755                      760                      765  
 Leu Thr Glu Ala Pro Ala Ser Pro Ser Thr Gln Glu Ala Ile Gln Gly  
 770                      775                      780  
 Met Leu Cys Met Ala Asn Leu Gln Ser Ser Ser Ser Pro Ala Thr  
 785                      790                      795                      800  
 Ser Ser Leu Gln Ala Trp Trp Thr Gly Gly Gln Asp Arg Ser Ser Gly  
 805                      810                      815  
 Ser Ser Ser Ser Gly Leu Gly Thr Val Ser Asn Ser Pro Ala Ser Gln  
 820                      825                      830  
 Arg Thr Pro Gly Lys Arg Pro Ile Lys Arg Pro Ala Tyr Trp Arg Thr  
 835                      840                      845  
 Glu Ser Glu Glu Glu Glu Asn Ala Ser Leu Asp Glu Gln Asp Ser  
 850                      855                      860  
 Leu Gly Ala Cys Phe Lys Asp Ala Glu Tyr Ile Tyr Pro Ser Leu Glu  
 865                      870                      875                      880  
 Ser Asp Asp Asp Asp Pro Ala Leu Lys Ser Arg Pro Lys Lys Lys Lys  
 885                      890                      895  
 Asn Ser Asp Asp Ala Pro Trp Ser Pro Lys Ala Arg Val Thr Pro Thr  
 900                      905                      910  
 Leu Pro Lys Gln Asp Arg Pro Val Arg Glu Gly Thr Arg Val Ala Ser  
 915                      920                      925  
 Ile Glu Thr Gly Leu Ala Ala Ala Ala Lys Leu Ala Gln Gln Glu  
 930                      935                      940  
 Leu Gln Lys Ala Gln Lys Lys Lys Tyr Ile Lys Lys Lys Pro Leu Leu  
 945                      950                      955                      960  
 Lys Glu Val Glu Gln Pro Arg Pro Gln Asp Ser Asn Leu Ser Leu Thr  
 965                      970                      975  
 Val Pro Ala Pro Thr Val Ala Ala Thr Pro Gln Leu Val Thr Ser Ser  
 980                      985                      990  
 Ser Pro Leu Pro Pro Pro Glu Pro Lys Gln Glu Ala Leu Ser Gly Ser  
 995                      1000                      1005  
 Leu Ala Asp His Glu Tyr Thr Ala Arg Pro Asn Ala Phe Gly Met Ala  
 1010                      1015                      1020  
 Gln Ala Asn Arg Ser Thr Thr Pro Met Ala Pro Gly Val Phe Leu Thr  
 1025                      1030                      1035                      1040  
 Gln Arg Arg Pro Ser Val Gly Ser Gln Ser Asn Gln Ala Gly Gln Gly  
 1045                      1050                      1055  
 Lys Arg Pro Lys Lys Gly Leu Ala Thr Ala Lys Gln Arg Leu Gly Arg  
 1060                      1065                      1070  
 Ile Leu Lys Ile His Arg Asn Gly Lys Leu Leu Leu  
 1075                      1080

&lt;210&gt; 4271

&lt;211&gt; 588



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4271

```

accatgtcat ttcctttgaa ctcaccggga cagcaatctg gattaaagat actacgacaa
60
ctgactactg attttgtcca tcactacatt gttgccaata acttttcaga gcttttccat
120
ttgctgtcct caagaaattg caaaaccaga aatcttggtta tgaaactact tttaaataatg
180
tctgaaaatc caactgcagc cagagacatg atcaatatga aggcattggc agcattaataa
240
ctcatcttta accacaaaga ggcaaaagcc aatcttggtta gtggtgtggc catatttatt
300
aacataaagg agcatatcag aaaagggtca attgtagtta ataaatatgg ccacaccact
360
aacaagattg gcttttgctt ctttctggtt aaagatgagt ttaaatgctg ccaatgcctt
420
catattgatc atgtctctgg ctgcagttgg attttcagac atatttaaaa gtagtttcaa
480
aacaagattt ctggttttgc aatttcctga ggacagcaaa tggaaaagct ctgaaaagta
540
attggcaaca atgtagtgat ggacaaaatc agtagtcagt tgtccgct
588

```

&lt;210&gt; 4272

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4272

```

Thr Met Ser Phe Pro Leu Asn Ser Pro Gly Gln Gln Ser Gly Leu Lys
1           5           10           15
Ile Leu Arg Gln Leu Thr Thr Asp Phe Val His His Tyr Ile Val Ala
20           25           30
Asn Asn Phe Ser Glu Leu Phe His Leu Leu Ser Ser Arg Asn Cys Lys
35           40           45
Thr Arg Asn Leu Val Met Lys Leu Leu Leu Asn Met Ser Glu Asn Pro
50           55           60
Thr Ala Ala Arg Asp Met Ile Asn Met Lys Ala Leu Ala Ala Leu Lys
65           70           75           80
Leu Ile Phe Asn His Lys Glu Ala Lys Ala Asn Leu Val Ser Gly Val
85           90           95
Ala Ile Phe Ile Asn Ile Lys Glu His Ile Arg Lys Gly Ser Ile Val
100          105          110
Val Asn Lys Tyr Gly His Thr Thr Asn Lys Ile Gly Phe Cys Leu Phe
115          120          125
Leu Val Lys Asp Glu Phe
130

```

&lt;210&gt; 4273

&lt;211&gt; 2081

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 4273  
nggatggatt agccattgtt cgagtgggtg gatgggtgga tgaatagatg ggtggaggat  
60  
agataggtgg gtgtatgggt ggggtggatgg attgatgcat ggatggatgg gctgcccatt  
120  
gagtaggtgc atgagtggat aaatgggtgg gtgggtaggt gaatagatgt atagatttat  
180  
aataggggga aggggtggatt ggtagatggg tagatggagg gatacattgc tgtgtggata  
240  
ggtgggtgaa tggatgaagg agggagggat gggcaggtag atggatagat tagtggatgg  
300  
atgggtggat gggctgacaa atggcttgtt cccagactgt ttgtccttgg gtggagtcac  
360  
gcaggtatct attgcagctg ggcctgaact gatatctgaa gagagaagtg gagacagcga  
420  
ccagacagat gaggatggag aacctggctc agaggcccag gccagggccc agcccttgg  
480  
cagcaaaaaa aagcgccctc tctccgtcca cgacttcgac ttcgaggagg actcagatga  
540  
ctccactcag cctcaaggtc actccctgca cctgtcctca gtccctgagg ccagggacag  
600  
cccacagtcc ctacacagat agtcctgctc agagaaggca gcccctcaca aggctgaggg  
660  
cctggaggag gctgatactg gggcctctgg gtgccactcc catccggaag agcagccgac  
720  
cagcatctca ccttccagac acggcgccct ggctgagctc tgcccgctg gaggtcccca  
780  
tagggaatgg ccctggggaa actgctgctg cactcgggtc ggatgtcatc aggaatgagc  
840  
agctgcccct gcagtacttg gccgatgtgg gacacctctg atgaggaaaag catccgggct  
900  
cacgtgatgg cctcccacca ttccaagcgg agaggccggg cgtcttctga gagtccgggt  
960  
ctaggtgctg gagtgcgcac ggagcncgac gtagaggagg aggccttgag gaggaagctg  
1020  
gaggagctga ccagcaacgt cagtgaccag gagaccttcg tccgaggagg aggaagccaa  
1080  
ggacgaaaat gcagagccca acagggacaa atcagttggg cctctcccc aggcggaccc  
1140  
ggacggtggc acggctgccc atcaaacc aa cagacaggaa aaaagcccca ggaccctggg  
1200  
gaccccgctc agtacaacag gaccacagat gaggagctgt cagagctgga ggacagagt  
1260  
gcagtgcgg cctcagaagt ccagcaggca gagagcgagg ttccagacat tgaatccagg  
1320  
attgcagccc tgagggccgc agggctcacg gtgaagccct cgggaaagcc ccggaggaag  
1380  
tcaaacctcc cgatatttct ccctcgagt gctgggaaac ttggcaagag accagaggac  
1440  
ccaaatgcag acccttcaag tgaggccaag gcaatggctg tgcctatctt ctgagaagaa  
1500  
agttcagtaa ttccctgaaa agtcaaggta aagatgatga ttcttttgat cggaaatcag  
1560

<400>	4274														
Met	Ala	Leu	Gly	Lys	Leu	Leu	Leu	His	Ser	Gly	Arg	Met	Ser	Ser	Gly
1				5					10					15	
Met	Ser	Ser	Cys	Pro	Cys	Ser	Thr	Trp	Pro	Met	Trp	Asp	Thr	Ser	Asp
			20					25					30		
Glu	Glu	Ser	Ile	Arg	Ala	His	Val	Met	Ala	Ser	His	His	Ser	Lys	Arg
		35					40					45			
Arg	Gly	Arg	Ala	Ser	Ser	Glu	Ser	Gln	Gly	Leu	Gly	Ala	Gly	Val	Arg
	50					55					60				
Thr	Glu	Xaa	Asp	Val	Glu	Glu	Ala	Leu	Arg	Arg	Lys	Leu	Glu	Glu	
65				70					75					80	
Leu	Thr	Ser	Asn	Val	Ser	Asp	Gln	Glu	Thr	Phe	Val	Arg	Gly	Gly	Gly
			85						90					95	
Ser	Gln	Gly	Arg	Lys	Cys	Arg	Ala	Gln	Gln	Gly	Gln	Ile	Ser	Trp	Ala
			100					105					110		
Ser	Pro	Pro	Gly	Gly	Pro	Gly	Arg	Trp	His	Gly	Cys	Pro	Ser	Asn	Gln
		115					120					125			
Gln	Thr	Gly	Lys	Lys	Pro	Gln	Asp	Pro	Gly	Asp	Pro	Val	Gln	Tyr	Asn
	130					135					140				
Arg	Thr	Thr	Asp	Glu	Glu	Leu	Ser	Glu	Leu	Glu	Asp	Arg	Val	Ala	Val
145				150						155				160	
Thr	Ala	Ser	Glu	Val	Gln	Gln	Ala	Glu	Ser	Glu	Val	Ser	Asp	Ile	Glu
			165					170						175	
Ser	Arg	Ile	Ala	Ala	Leu	Arg	Ala	Ala	Gly	Leu	Thr	Val	Lys	Pro	Ser
		180					185						190		
Gly	Lys	Pro	Arg	Arg	Lys	Ser	Asn	Leu	Pro	Ile	Phe	Leu	Pro	Arg	Val
	195					200					205				
Ala	Gly	Lys	Leu	Gly	Lys	Arg	Pro	Glu	Asp	Pro	Asn	Ala	Asp	Pro	Ser
	210					215					220				
Ser	Glu	Ala	Lys	Ala	Met	Ala	Val	Pro	Ile	Phe					

225

230

235

&lt;210&gt; 4275

&lt;211&gt; 874

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4275

atgcaggtgg ccctgggtgc acatctacga gatgccaggc gcgggcagag gctccgctca  
 60  
 ggggcgcacg tagtgggtcac tggaccccc aatgcgggca agagcagcct agtgaacctg  
 120  
 ctacgtcgga agcctgtgtc catcgtgtcc ccggagccag ggaccacccg tgacgtgctg  
 180  
 gagacccag tcgacctggc cggatttcct gtgctgctga gcgacacggc tgggttgctg  
 240  
 gagggcgtgg gggccgtgga gcaggagggc gtgcggcgcg cccgggagag gctagagcag  
 300  
 gctgacctca ttctggccat gctggatgct tctgacctgg cctctccctc cagttgcaac  
 360  
 ttcttgccca ccgtcgtagc ctctgtggga gccagagacc ccagtgcagc cagccagcgc  
 420  
 ctctctctgg tgctgaacaa gtcggacctg ctgtccccgg agggcccagg tcccggctct  
 480  
 gacctgcccc cgcacctgct gctgtcctgt ctgacgggag aggggctgga cggcctcctg  
 540  
 gaggcgctga ggaaggagct agctgcagtg tgtggggacc cgtccacaga tccccgctg  
 600  
 ctgacccgag caaggcacca gcaccacctc cagggttgcc tggatgccct cggccactac  
 660  
 aagcagtcaa aagacctggc cctggcggca gaggcgctgc gggtgggccg gggtcacctg  
 720  
 acccggctca cagggtggagg gggtagcgag gagatcctgg acatcatctt ccaggacttc  
 780  
 tgtgtgggca agtgacggga tccaggggaat tcgcacccaa gctgcgtgga gaccagagg  
 840  
 cctcggggga tctggaaaca gtttaggcca attg  
 874

&lt;210&gt; 4276

&lt;211&gt; 264

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4276

Met Gln Val Ala Leu Gly Ala His Leu Arg Asp Ala Arg Arg Gly Gln  
 1 5 10 15  
 Arg Leu Arg Ser Gly Ala His Val Val Val Thr Gly Pro Pro Asn Ala  
 20 25 30  
 Gly Lys Ser Ser Leu Val Asn Leu Leu Ser Arg Lys Pro Val Ser Ile  
 35 40 45  
 Val Ser Pro Glu Pro Gly Thr Thr Arg Asp Val Leu Glu Thr Pro Val  
 50 55 60  
 Asp Leu Ala Gly Phe Pro Val Leu Leu Ser Asp Thr Ala Gly Leu Arg

65					70					75					80
Glu	Gly	Val	Gly	Pro	Val	Glu	Gln	Glu	Gly	Val	Arg	Arg	Ala	Arg	Glu
				85					90					95	
Arg	Leu	Glu	Gln	Ala	Asp	Leu	Ile	Leu	Ala	Met	Leu	Asp	Ala	Ser	Asp
			100					105					110		
Leu	Ala	Ser	Pro	Ser	Ser	Cys	Asn	Phe	Leu	Ala	Thr	Val	Val	Ala	Ser
		115					120					125			
Val	Gly	Ala	Gln	Ser	Pro	Ser	Asp	Ser	Ser	Gln	Arg	Leu	Leu	Leu	Val
	130					135					140				
Leu	Asn	Lys	Ser	Asp	Leu	Leu	Ser	Pro	Glu	Gly	Pro	Gly	Pro	Gly	Pro
145					150					155					160
Asp	Leu	Pro	Pro	His	Leu	Leu	Leu	Ser	Cys	Leu	Thr	Gly	Glu	Gly	Leu
				165					170					175	
Asp	Gly	Leu	Leu	Glu	Ala	Leu	Arg	Lys	Glu	Leu	Ala	Ala	Val	Cys	Gly
			180					185					190		
Asp	Pro	Ser	Thr	Asp	Pro	Pro	Leu	Leu	Thr	Arg	Ala	Arg	His	Gln	His
		195					200					205			
His	Leu	Gln	Gly	Cys	Leu	Asp	Ala	Leu	Gly	His	Tyr	Lys	Gln	Ser	Lys
	210					215					220				
Asp	Leu	Ala	Leu	Ala	Ala	Glu	Ala	Leu	Arg	Val	Ala	Arg	Gly	His	Leu
225					230					235					240
Thr	Arg	Leu	Thr	Gly	Gly	Gly	Gly	Thr	Glu	Glu	Ile	Leu	Asp	Ile	Ile
			245						250					255	
Phe	Gln	Asp	Phe	Cys	Val	Gly	Lys								
			260												

&lt;210&gt; 4277

&lt;211&gt; 1070

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4277

cggcgggtcg ggcctccttt tgttttagga agggcacttc actccccggg cccccacctg  
 60  
 cccgcctgcg ccgccccctt cgcgggtcc ggagttggcg gggccctgcg ccggaggagg  
 120  
 aggaccaggc ccgcgggctc agctctcgcc gccagcgggc cgcagcattt ttgaaacgtt  
 180  
 ggggttggtg gagggttggtg attttccctg gaattgagtg agaaattcag aagactgaag  
 240  
 ccaggtctta ctgtctacct ttcacggagg cctagccgtg agaggacaga agaaggcacg  
 300  
 tggcgaatca tgacagcgga caaagacaaa gacaaagaca aagagaagga ccgggaccga  
 360  
 gaccgggacc gagagagaga gaaaagagac aaagcaagag agagtgagaa ttcaaggcca  
 420  
 cgccggagct gtaccttgga aggaggagcc aaaaattatg ctgagagtga tcacagtga  
 480  
 gacgaggaca atgacaacaa tagtgccacc gcagaggagt ccacgaagaa gaataagaag  
 540  
 aaaccaccga aaaaaaagtc tcgttatgaa aggacagata ccggtgagat aacatcctac  
 600  
 atcactgaag atgatgtggt ctacagacca ggagactgtg tgtatatcga gagtcggagg  
 660

ccaaacacac cgtatttcat ctgtagcatt caagacttca aactgggtcca caactcccag  
 720  
 gcctgttgca gatctccaac tcttgctttg tgtgaccccc cagcatgctc tctgccggtg  
 780  
 gcatcacagc caccacagca tctttctgaa gccgggagag ggctgttagg gagtaagagg  
 840  
 gaccatctcc tcatgaacgt caaatgggtac taccgtcaat ctgagggtcc agattctgtg  
 900  
 tatcagcatt tgggttcagga tcgacataat gaaaatgact ctggaagaga acttgtcatt  
 960  
 acagacccag ttatcaagaa ccgagagctc ttcatttctg attacgttga cacttacat  
 1020  
 gctgctgccc ttagagggaa gtgtaacatt ctccattttt ctgacatatt  
 1070

&lt;210&gt; 4278

&lt;211&gt; 253

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4278

Met	Thr	Ala	Asp	Lys	Asp	Lys	Asp	Lys	Asp	Lys	Glu	Lys	Asp	Arg	Asp	1	5	10	15
Arg	Asp	Arg	Asp	Arg	Glu	Arg	Glu	Lys	Arg	Asp	Lys	Ala	Arg	Glu	Ser	20	25	30	
Glu	Asn	Ser	Arg	Pro	Arg	Arg	Ser	Cys	Thr	Leu	Glu	Gly	Gly	Ala	Lys	35	40	45	
Asn	Tyr	Ala	Glu	Ser	Asp	His	Ser	Glu	Asp	Glu	Asp	Asn	Asp	Asn	Asn	50	55	60	
Ser	Ala	Thr	Ala	Glu	Glu	Ser	Thr	Lys	Lys	Asn	Lys	Lys	Lys	Pro	Pro	65	70	75	80
Lys	Lys	Lys	Ser	Arg	Tyr	Glu	Arg	Thr	Asp	Thr	Gly	Glu	Ile	Thr	Ser	85	90	95	
Tyr	Ile	Thr	Glu	Asp	Asp	Val	Val	Tyr	Arg	Pro	Gly	Asp	Cys	Val	Tyr	100	105	110	
Ile	Glu	Ser	Arg	Arg	Pro	Asn	Thr	Pro	Tyr	Phe	Ile	Cys	Ser	Ile	Gln	115	120	125	
Asp	Phe	Lys	Leu	Val	His	Asn	Ser	Gln	Ala	Cys	Cys	Arg	Ser	Pro	Thr	130	135	140	
Pro	Ala	Leu	Cys	Asp	Pro	Pro	Ala	Cys	Ser	Leu	Pro	Val	Ala	Ser	Gln	145	150	155	160
Pro	Pro	Gln	His	Leu	Ser	Glu	Ala	Gly	Arg	Gly	Pro	Val	Gly	Ser	Lys	165	170	175	
Arg	Asp	His	Leu	Leu	Met	Asn	Val	Lys	Trp	Tyr	Tyr	Arg	Gln	Ser	Glu	180	185	190	
Val	Pro	Asp	Ser	Val	Tyr	Gln	His	Leu	Val	Gln	Asp	Arg	His	Asn	Glu	195	200	205	
Asn	Asp	Ser	Gly	Arg	Glu	Leu	Val	Ile	Thr	Asp	Pro	Val	Ile	Lys	Asn	210	215	220	
Arg	Glu	Leu	Phe	Ile	Ser	Asp	Tyr	Val	Asp	Thr	Tyr	His	Ala	Ala	Ala	225	230	235	240
Leu	Arg	Gly	Lys	Cys	Asn	Ile	Leu	His	Phe	Ser	Asp	Ile				245	250		

<210> 4279  
<211> 1963  
<212> DNA  
<213> Homo sapiens

<400> 4279  
cggccgctta cggaaaactc gctgttgga gttctggatg gcacagtcac gatgtacagt  
60  
ctgagcgtac accagcagct gggcaagatg gtgggtgtgt ctgatgatgt caacgagtat  
120  
gcaatggccc tgagagacac cgaggacaag ctacgtcggg gcccgaagag gaggaaggac  
180  
atccttgacag agttgaccaa gagccagaag gttttctcag aaaagctgga ccacctgagc  
240  
cgccgtcttg cctgggtcca tgccactgtc tactcccagg agaagatgct ggacatctac  
300  
tggtctgtgc gcgtctgcct gcggaccatt gagcacggtg atcgcacagg gtctctcttt  
360  
gccttcatgc ccgagttcta cctgagcgtg gccatcaaca gctacagtgc tctcaagaat  
420  
tactttggtc ccgtgcacag catggaggag ctcccaggct atgaagagac cctgaccgcg  
480  
ctggctgcca ttctcgcaa acactttgcc gacgcacgca ttgtggggcac tgacatccga  
540  
gactcactga tgcaggccct ggccagctac gtgtgctacc cacactccct gcgggctgtg  
600ccgaggagca gcgtatcgcc atggtgagga acctcctggc gccctatgag 660  
cagcggccct gggcccagac caactggatc ctggtgcggc tctggagggg ctgtggcttc  
720  
gggtaccgct atacacggct gccacatctg ctgaaaacca aacttgagga cgccaatttg  
780  
cccagcctcc agaagccctg cccttcacc ctgctgcagc agcacatggc ggacctccta  
840  
cagcagggtc ctgatgtggc acccagcttc ctcaacagcg tcctcaatca gctcaactgg  
900  
gccttctctg aattcattgg catgatccaa gagatccagc aggctgctga gcgcctggag  
960  
cggaactttg tggacagccg gcagctcaag gtatgtgcca cctgctttga cctctcggtc  
1020  
agcctgctgc gtgtcttgga gatgactatc aactgggtgc ctgagatatt ccttgactgg  
1080  
accggccta cctctgagat gctgctgcgg cgtcttgac agctgctaaa ccagggtgctg  
1140  
aaccgggtga cagctgagag gaacctgttt gatcgtgtgg tcaccctacg gctgcctggc  
1200  
ctagagagcg tggaccacta tcccattctg gtggcagtga cgggcatcct ggtgcagctc  
1260  
ctggtgcgtg gcccagcctc agagagagag caagccacat cagtgtcctt ggcagatccc  
1320  
tgcttccagc tacgtcaat atgctatctc ctgggacagc cagagccccc agcacctggc  
1380  
actgctctgc cagcccctga ccggaagcgc ttctccctgc agagctatgc ggattatata  
1440  
agtgccgatg agctggccca agtggaaacag atgctggcgc acctgacctc tgcattctgc  
1500

caggcagcag ctgcctccct gccaccagt gaggaggacc tctgccccat ctgctatgcc  
 1560  
 caccatctct ctgctgtgtt ccagccctgt ggccacaagt cctgcaaagc ctgtatcaac  
 1620  
 cagcacctga tgaacaacaa ggactgcttc ttctgcaaaa ccaccatcgt gtctgtagag  
 1680  
 gactgggaga agggagccaa tacgagtact acctcctcag ctgcctagcc ctcacagcct  
 1740  
 gtgccatcct ggaacctcca cctttgaacc cagagccagg ctgggcccta tttatgagct  
 1800  
 ccctttgccc ttctcctgta tcccacacca ccacatccaa cctccttgcc tgctgtatc  
 1860  
 ctcattggtg ggagcccagc catggcccta attgtgctg agcttgactt tcagtcaggg  
 1920  
 ccacagttag cattaaatta ttattccata caaaaaaaaaaaa aaa  
 1963

&lt;210&gt; 4280

&lt;211&gt; 575

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4280

Arg	Pro	Leu	Thr	Glu	Asn	Ser	Leu	Leu	Glu	Val	Leu	Asp	Gly	Thr	Val
1				5					10					15	
Met	Met	Tyr	Ser	Leu	Ser	Val	His	Gln	Gln	Leu	Gly	Lys	Met	Val	Gly
			20					25					30		
Val	Ser	Asp	Asp	Val	Asn	Glu	Tyr	Ala	Met	Ala	Leu	Arg	Asp	Thr	Glu
		35					40					45			
Asp	Lys	Leu	Arg	Arg	Cys	Pro	Lys	Arg	Arg	Lys	Asp	Ile	Leu	Ala	Glu
	50					55					60				
Leu	Thr	Lys	Ser	Gln	Lys	Val	Phe	Ser	Glu	Lys	Leu	Asp	His	Leu	Ser
65					70					75					80
Arg	Arg	Leu	Ala	Trp	Val	His	Ala	Thr	Val	Tyr	Ser	Gln	Glu	Lys	Met
				85					90					95	
Leu	Asp	Ile	Tyr	Trp	Leu	Leu	Arg	Val	Cys	Leu	Arg	Thr	Ile	Glu	His
			100					105						110	
Gly	Asp	Arg	Thr	Gly	Ser	Leu	Phe	Ala	Phe	Met	Pro	Glu	Phe	Tyr	Leu
		115					120					125			
Ser	Val	Ala	Ile	Asn	Ser	Tyr	Ser	Ala	Leu	Lys	Asn	Tyr	Phe	Gly	Pro
		130				135					140				
Val	His	Ser	Met	Glu	Glu	Leu	Pro	Gly	Tyr	Glu	Glu	Thr	Leu	Thr	Arg
145					150					155					160
Leu	Ala	Ala	Ile	Leu	Ala	Lys	His	Phe	Ala	Asp	Ala	Arg	Ile	Val	Gly
			165						170					175	
Thr	Asp	Ile	Arg	Asp	Ser	Leu	Met	Gln	Ala	Leu	Ala	Ser	Tyr	Val	Cys
		180						185					190		
Tyr	Pro	His	Ser	Leu	Arg	Ala	Val	Glu	Arg	Ile	Pro	Glu	Glu	Gln	Arg
		195				200						205			
Ile	Ala	Met	Val	Arg	Asn	Leu	Leu	Ala	Pro	Tyr	Glu	Gln	Arg	Pro	Trp
	210					215					220				
Ala	Gln	Thr	Asn	Trp	Ile	Leu	Val	Arg	Leu	Trp	Arg	Gly	Cys	Gly	Phe
225				230						235					240
Gly	Tyr	Arg	Tyr	Thr	Arg	Leu	Pro	His	Leu	Leu	Lys	Thr	Lys	Leu	Glu



```
<210> 4281
<211> 507
<212> DNA
<213> Homo sapiens
```

```
<400> 4281
acgcgtgaag ggacagagct ggggccttgt caggagcccc acagttggcc aatggggccag
60
atgccccata gtctcagccc acctctcttc tgccatgagt ccctgattc tgtcctttga
120
gctgactctg agaggcagtg ggcttcccg cagcacctcc ccctatcaca tttgtagggc
180
```

tggtttatga ggccggaagt aagcaagcac cccctcatat caacctggca cttcacaccc  
 240  
 cccatggtta tcagtggggg tgctggctgg ctggcaggca gccagagaca tttcagcagg  
 300  
 tcaggcatgg atgcagggtg aaatgagaga ggatcagtga gcgcattcat gtcttttgag  
 360  
 tggcttacag atgagtggtc tccagtctca aatgaggaga acaaataaggg aagtaggagc  
 420  
 tcagggttct tgtgtgtctc ataggcagct gcctatccct gggtgataca gctccctggc  
 480  
 acacccattc ccaagggcac aggatcc  
 507

<210> 4282

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4282

Met	Asn	Ala	Leu	Thr	Asp	Pro	Leu	Ser	Phe	Pro	Pro	Ala	Ser	Met	Pro
1				5					10					15	
Asp	Leu	Leu	Lys	Cys	Leu	Trp	Leu	Pro	Ala	Ser	Gln	Pro	Ala	Pro	Pro
			20					25					30		
Leu	Ile	Thr	Met	Gly	Gly	Val	Lys	Cys	Gln	Val	Asp	Met	Arg	Gly	Cys
		35				40					45				
Leu	Leu	Thr	Ser	Gly	Leu	Ile	Asn	Gln	Pro	Tyr	Lys	Cys	Asp	Arg	Gly
		50				55				60					
Arg	Cys	Trp	Arg	Glu	Ala	His	Cys	Leu	Ser	Glu	Ser	Ala	Gln	Arg	Thr
65				70					75					80	
Glu	Ser	Gly	Asp	Ser	Trp	Gln	Lys	Arg	Gly	Gly	Leu	Arg	Leu	Trp	Gly
			85					90					95		
Ile	Trp	Pro	Ile	Gly	Gln	Leu	Trp	Gly	Ser						
			100					105							

<210> 4283

<211> 315

<212> DNA

<213> Homo sapiens

<400> 4283

gaattctcaa ccagaacagc ccagcaggaa aggagccggc atgggggtgcc cctctgcagc  
 60  
 cgaccgtttt cctagaaggc ctaaccgctc aaacggggcag gggagggggg cgggcggccc  
 120  
 gggagaaacc gagtccccgc cgggtcccca ccgtgtggcg ccgaccgaaa taactccagt  
 180  
 ccagctgcaa aaaccctccc gaaaacccaa gcttgtccgg cacaacttcg gtctctccag  
 240  
 cctcattcct gcccgcactc cgccaaactg ctcgccctgc ccagcgcagc ggatgcagcg  
 300  
 ctcccggccc nacgg  
 315

<210> 4284

<211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 4284  
 Met Gly Cys Pro Ser Ala Ala Asp Arg Phe Pro Arg Arg Pro Asn Arg  
 1 5 10 15  
 Ser Asn Gly Gln Gly Arg Gly Ala Gly Pro Gly Glu Thr Glu Ser  
 20 25 30  
 Pro Pro Gly Pro His Arg Val Ala Pro Thr Glu Ile Thr Pro Val Gln  
 35 40 45  
 Leu Gln Lys Pro Ser Arg Lys Pro Lys Leu Val Arg His Asn Phe Gly  
 50 55 60  
 Leu Ser Ser Leu Ile Pro Ala Arg Thr Pro Pro Asn Cys Ser Pro Cys  
 65 70 75 80  
 Pro Ala Gln Arg Met Gln Arg Ser Arg Pro Xaa  
 85 90

<210> 4285  
 <211> 591  
 <212> DNA  
 <213> Homo sapiens

<400> 4285  
 nagatctcag agaacttggt gaacattcag aaaatgcaga aaacgcaggt gaaatgccgc  
 60  
 aaaatcctga ccaagatgaa gcagcagggt catgagacag ccgcctgtcc ggagactgaa  
 120  
 gagataccgc agggagccag tggctgctgg aaggatgacc tccagaagga actgagtgat  
 180  
 atatggtgat gccagcctg cagtctgacc cctgaccctc ctctgaaccc gttcccccaa  
 240  
 cgggatctgg cagtgaccac cagaacctgg agcccacctg agtcagact tccctcaccc  
 300  
 cctaggactc accccaccac ggcccccaac cttagctgta ctgctgtcta caccctgagc  
 360  
 agtgtggagt ctcccagegc cccagctcc ttgtcttctt gcaggctctgc tgtgcacgtg  
 420  
 ctgcaggact ccatagacag cctcactttg tgctcggggg cctgtcccaa ggccctcgagc  
 480  
 ctaagaggcc acaagggcac cagtgcctga gccctccact cccctcctgg gactctgact  
 540  
 ccgactgtga ccaggacctc tcccagccac ctttcagcaa gagcggccgc a  
 591

<210> 4286  
 <211> 106  
 <212> PRT  
 <213> Homo sapiens

<400> 4286  
 Cys Pro Ala Cys Ser Leu Thr Pro Asp Pro Pro Leu Asn Pro Phe Pro  
 1 5 10 15  
 Gln Arg Asp Leu Ala Val Thr Thr Arg Thr Trp Ser Pro Pro Glu Ser

```
<210> 4288
<211> 240
<212> PRT
<213> Homo sapiens
```

&lt;400&gt; 4288

```

Met Arg Val Ala Thr Lys Ser Gly Arg Lys Arg Trp Leu Lys Ala Thr
1      5      10      15
Thr Met Lys Asn Ser Val Arg Leu Val Ala Met Ala Pro Ser Pro Ala
20      25      30
Leu Thr Ser Ile Ser Ser Glu Pro Ser Glu Ala Trp Val Gln Ala Phe
35      40      45
Ala Ser Tyr Arg Met Ser Pro Gly Asn Trp Lys Thr Xaa Val Leu Ala
50      55      60
Gln Thr Leu Val Glu Ala Leu Gln Leu Asp Pro Glu Thr Leu Ala Asn
65      70      75      80
Glu Thr Ala Ala Arg Ala Ala Asn Val Ala Arg Ala Ala Ala Ser Asn
85      90      95
Arg Ala Ala Arg Ala Ala Ala Ala Ala Ala Arg Thr Ala Phe Ser Gln
100     105     110
Val Val Ala Ser His Arg Val Ala Thr Pro Gln Val Ser Gly Glu Asp
115     120     125
Thr Gln Pro Thr Thr Tyr Ala Ala Glu Ala Gln Gly Pro Thr Pro Glu
130     135     140
Pro Pro Leu Ala Ser Pro Gln Thr Ser Gln Met Leu Val Thr Ser Lys
145     150     155     160
Met Ala Ala Pro Glu Ala Pro Ala Thr Ser Ala Gln Ser Gln Thr Gly
165     170     175
Ser Pro Ala Gln Glu Ala Ala Thr Glu Gly Pro Ser Ser Ala Cys Ala
180     185     190
Phe Ser Gln Ala Pro Cys Ala Arg Glu Val Asp Ala Asn Arg Pro Ser
195     200     205
Thr Ala Phe Leu Gly Gln Asn Asp Val Phe Asp Phe Thr Gln Pro Ala
210     215     220
Val Ser Val Ala Trp Leu Pro Ala Pro Lys Arg Pro Ala Gln Pro Arg
225     230     235     240

```

&lt;210&gt; 4289

&lt;211&gt; 353

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4289

```

ggatccctgg gaagatgact accctgcctg tgcgggatat gagggagaaa tatgggagcc
60
tcctcacttc aggtgtcact gctcagcata tatccaggct ttgttttcat attggtcttg
120
caaagagcct tttgggaaca gttttcttat tgaaacatac tcagtgttta aacctgcagg
180
tgtgggttgg tggcagtcca catggcatcc tttgctctgt ccctgttctc ctgtctctgg
240
ctattcaggt tcccgtgagg atactgtcac ccttgaataa tggagcttgc ggaagaccaa
300
gcccctgttt ttggagtcct tgtgctgagg ccgctgtaac ttgcggagag ttg
353

```

&lt;210&gt; 4290

&lt;211&gt; 113

&lt;212&gt; PRT

<213> Homo sapiens

<400> 4290

```

Met Thr Thr Leu Pro Val Arg Asp Met Arg Glu Lys Tyr Gly Ser Leu
 1           5           10           15
Leu Thr Ser Gly Val Thr Ala Gln His Ile Ser Arg Leu Cys Phe His
      20           25           30
Ile Gly Leu Ala Lys Ser Leu Leu Gly Thr Val Phe Leu Leu Lys His
      35           40           45
Thr Gln Cys Leu Asn Leu Gln Val Trp Val Gly Gly Ser Pro His Gly
      50           55           60
Ile Leu Cys Ser Val Pro Val Leu Leu Ser Leu Ala Ile Gln Val Pro
65           70           75           80
Val Arg Ile Leu Ser Pro Leu Asn Asn Gly Ala Cys Gly Arg Pro Ser
      85           90           95
Pro Cys Phe Trp Ser Pro Cys Ala Glu Ala Ala Val Thr Cys Gly Glu
      100           105           110
Leu

```

<210> 4291

<211> 517

<212> DNA

<213> Homo sapiens

<400> 4291

```

nnaaatttgc caagccaaga gttaccccag gaagattctc tcttacatgg ccaattttca
60
caagcagtca ctcccctagc ccacatcac acagattatt caaagcccac cgatatctca
120
tggagagaca cactttctca gaagtttgga tcctcagatc acttggagaa actatttaag
180
atggatgaag caagtgccca gctccttgct tataaggaaa aaggccattc tcagagttca
240
caattttcct ctgatcaaga aatagctcat ctgctgcctg aaaatgtgag tgcgctccca
300
gctacgggtg cagttgcttc tccacatacc acctcggcta ctccaaagcc cgccaccctt
360
ctaccaccca atgcttcagt gacaccttct gggacttccc agccacagct ggccaccaca
420
gctccacctg taaccactgt cacttctcag cctcccacga ccctcatttc tacagttttt
480
acacgggctg tggctacact ccaagcaatg gctacaa
517

```

<210> 4292

<211> 172

<212> PRT

<213> Homo sapiens

<400> 4292

```

Xaa Asn Leu Pro Ser Gln Glu Leu Pro Gln Glu Asp Ser Leu Leu His
 1           5           10           15
Gly Gln Phe Ser Gln Ala Val Thr Pro Leu Ala His His His Thr Asp

```

			20				25					30			
Tyr	Ser	Lys	Pro	Thr	Asp	Ile	Ser	Trp	Arg	Asp	Thr	Leu	Ser	Gln	Lys
		35					40					45			
Phe	Gly	Ser	Ser	Asp	His	Leu	Glu	Lys	Leu	Phe	Lys	Met	Asp	Glu	Ala
	50					55					60				
Ser	Ala	Gln	Leu	Leu	Ala	Tyr	Lys	Glu	Lys	Gly	His	Ser	Gln	Ser	Ser
65					70					75				80	
Gln	Phe	Ser	Ser	Asp	Gln	Glu	Ile	Ala	His	Leu	Leu	Pro	Glu	Asn	Val
				85					90					95	
Ser	Ala	Leu	Pro	Ala	Thr	Val	Ala	Val	Ala	Ser	Pro	His	Thr	Thr	Ser
			100					105					110		
Ala	Thr	Pro	Lys	Pro	Ala	Thr	Leu	Leu	Pro	Thr	Asn	Ala	Ser	Val	Thr
		115					120				125				
Pro	Ser	Gly	Thr	Ser	Gln	Pro	Gln	Leu	Ala	Thr	Thr	Ala	Pro	Pro	Val
	130				135						140				
Thr	Thr	Val	Thr	Ser	Gln	Pro	Pro	Thr	Thr	Leu	Ile	Ser	Thr	Val	Phe
145					150					155					160
Thr	Arg	Ala	Val	Ala	Thr	Leu	Gln	Ala	Met	Ala	Thr				
			165					170							

```
<210> 4293
<211> 547
<212> DNA
<213> Homo sapiens
```

```

<400> 4293
gccggcgccc ccggcgcgga tgctgtctct gtgcctgtat ctgagatcat cgccgttgag
60
gaaacagacg ttcacgggaa acatcaaggc agtggaaaaat ggcagaaaaat ggaaaaagcct
120
tacgctttta cagttcactg tgtaaagaga gcacgacggc accgctggaa gtgggcgag
180
gtgactttct ggtgtccaga ggagcagctg tgtcacttgt ggctgcagac cctgcgggag
240
atgctggaga agctgacgtc cagaccaaag catttactgg tattttatcaa cccgtttgga
300
ggaaaaggac aaggcaagcg gatatatgaa agaaaagtgg caccactgtt caccttagcc
360
tccatcacca ctgacatcat cgttactgaa catgctaatc aggccaagga gactctgtat
420
gagattaaca tagacaaata cgacggcatc gtctgtgtcg gcggagatgg tatgttcagc
480
gaggtgctgc acggtctgat tgggaggacg cagaggagcg ccggggtcga ccagaaccac
540
ccccggg
547

```

```
<210> 4294
<211> 182
<212> PRT
<213> Homo sapiens
```

<400> 4294  
Ala Gly Ala Pro Gly Ala Asp Ala Cys Ser Val Pro Val Ser Glu Ile

```

1           5           10           15
Ile Ala Val Glu Thr Asp Val His Gly Lys His Gln Gly Ser Gly
20           25           30
Lys Trp Gln Lys Met Glu Lys Pro Tyr Ala Phe Thr Val His Cys Val
35           40           45
Lys Arg Ala Arg Arg His Arg Trp Lys Trp Ala Gln Val Thr Phe Trp
50           55           60
Cys Pro Glu Glu Gln Leu Cys His Leu Trp Leu Gln Thr Leu Arg Glu
65           70           75           80
Met Leu Glu Lys Leu Thr Ser Arg Pro Lys His Leu Leu Val Phe Ile
85           90           95
Asn Pro Phe Gly Gly Lys Gly Gln Gly Lys Arg Ile Tyr Glu Arg Lys
100          105          110
Val Ala Pro Leu Phe Thr Leu Ala Ser Ile Thr Thr Asp Ile Ile Val
115          120          125
Thr Glu His Ala Asn Gln Ala Lys Glu Thr Leu Tyr Glu Ile Asn Ile
130          135          140
Asp Lys Tyr Asp Gly Ile Val Cys Val Gly Gly Asp Gly Met Phe Ser
145          150          155          160
Glu Val Leu His Gly Leu Ile Gly Arg Thr Gln Arg Ser Ala Gly Val
165          170          175
Asp Gln Asn His Pro Arg
180

```

<210> 4295  
 <211> 431  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4295
nntctagaaa atcactgtct ccttctaccc tgccatctct acaccaggggt tacaacaag
60
agcccaactgc tggctccttg ttttgtaa atagatttgg ggactacagc tatgcccgtg
120
catgtacatt ttgtgtatgg ctgcttttgt gccacaacag cagggttgag tattgcgaca
180
gagacccccca ttgccacaaa gcctaaaaca tttgccatcg agccctttaa gaaagagttt
240
gctggccgtg cgcggtggcc gtggctcccg cctgtaatcc cagcactttg gaaggctgag
300
gcaggcgggtg aggtctggag ttcgaaacca gcctggccag cgtggcgaaa ccctgtctcc
360
ccctcccaga ttcacgtgat tatccacact cagcctcctg agtacctggg actataggcg
420
cgtgccaacc a
431

```

<210> 4296  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4296
Xaa Leu Glu Asn His Cys Leu Leu Leu Pro Cys His Leu Tyr Thr Arg

```



```

1           5           10           15
Val Thr Asn Lys Ser Pro Leu Leu Ala Pro Cys Phe Val Asn Lys Ile
                20                25                30
Cys Trp Thr Thr Ala Met Pro Val His Val His Phe Val Tyr Gly Cys
                35                40                45
Phe Cys Ala Thr Thr Ala Gly Leu Ser Ile Ala Thr Glu Thr Pro Ile
                50                55                60
Ala His Lys Pro Lys Thr Phe Ala Ile Glu Pro Phe Lys Lys Glu Phe
65                70                75                80
Ala Gly Arg Ala Arg Trp Pro Trp Leu Pro Pro Val Ile Pro Ala Leu
                85                90                95
Trp Lys Ala Glu Ala Gly Gly Glu Val Trp Ser Ser Lys Pro Ala Trp
                100                105                110
Pro Ala Trp Arg Asn Pro Val Ser Pro Ser Gln Ile His Val Ile Ile
                115                120                125
Pro Pro Gln Pro Pro Glu Tyr Leu Gly Leu
                130                135

```

<210> 4297  
 <211> 1668  
 <212> DNA  
 <213> Homo sapiens

<400> 4297  
 nccatggact cggcctttgt ggggtataaag gtcaaccaag tgtcagctgc agttggaaaa  
 60  
 gatttcaccg tgattccatc taaactgatt cagtttgacc caggaatgtc aactaagatg  
 120  
 tggaatatag caattacctg tgacggatta gaggaagatg atgaggtctt tgaagtaatt  
 180  
 ctgaactccc ctgtgaatgc agttcttggc acaaagacaa aagctgcagt gaaaattttg  
 240  
 gactcaaaag gaggacaatg ccatccttca tattcctcca accaaagcaa gcacagcaca  
 300  
 tgggagaagg gcatttggca tctgctgccc ccagggtctt cctcatccac cacttctggt  
 360  
 tcctttcatc tggaaagaag acctcttcca tcttccatgc agctagcagt catcagggga  
 420  
 gacaccctgc ggggctttga ttctacagat ctttctcaaa ggaagcttag gaccogtggg  
 480  
 aatggcaaaa cagttcgtcc atcctctggt tatagaaatg gaacagacat catctataat  
 540  
 tatcatggga tagtttctt gaaactggag gatgacagtt tcccaactca caaaaggaag  
 600  
 gccaaagtat ccatcattag tcagccacaa aagacaatca aagtggcaga actgcctcaa  
 660  
 gcagataagg tggaatccac aactgactca cacttcccca gacaggacca gttgccctca  
 720  
 tttccaaaga actgcactct ggaattaaag ggactcttcc attttgaaga aggcattccag  
 780  
 aagctgtatc agtgcaatgg gatcgcttgg aaagcctgga gtccccaac caaggatgtg  
 840  
 gaagacaaat cctgtccagc cgggtggcac cagcactcag gctactgtca catcttgatc  
 900

acagagcaga aaggcacctg gaatgoggct gcccaagctt gcaggggaaca atacctgggc  
 960  
 aaccttgtaa ctgtattctc caggcagcac atgogggtggc tctgggacat tgggtgggaga  
 1020  
 aagtcctttt ggatagggtt gaacgaccaa gtgcatgctg gccactggga gtggatcggt  
 1080  
 ggtgaacctg ttgccttcac caatgggaga agagggccct ctccacgctc caagcttgga  
 1140  
 aagagctgtg ttttggttca aagacaaggg aaatggcaaa caaaagactg taggagagcc  
 1200  
 aaacctcata attatgtgtg ttccagaaaa ctctaaatat aacagaccct acagggggcc  
 1260  
 acctggagtt tgtcacctat ttattcacag gatctgtgaa tattgctcca tagaaaaaca  
 1320  
 attgttatga ttgagtgggt atacctttgt gattctgtct agtgaaaatg ggacattttt  
 1380  
 aatagtgcc aagagattga taaataaata ttttttacia gataagatac aatttttgta  
 1440  
 tctcaatacc ttttaaaata aatgccagca gtattaaaaa gtgtaagggt tgtttattcc  
 1500  
 agaagaccct cacccttacc ccattccaaa tctcaggag caccagtctc atagtccttg  
 1560  
 gatttttttt aaaaaaaatt tttggtcccg ttacctctaa tgaatttatt ctgaaatatg  
 1620  
 tategtaggt gctcctacca ctttagtctg agtggaaagc caaaaaac  
 1668

&lt;210&gt; 4298

&lt;211&gt; 411

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4298

Xaa	Met	Asp	Ser	Ala	Phe	Val	Gly	Ile	Lys	Val	Asn	Gln	Val	Ser	Ala
1				5					10					15	
Ala	Val	Gly	Lys	Asp	Phe	Thr	Val	Ile	Pro	Ser	Lys	Leu	Ile	Gln	Phe
			20					25					30		
Asp	Pro	Gly	Met	Ser	Thr	Lys	Met	Trp	Asn	Ile	Ala	Ile	Thr	Tyr	Asp
		35					40					45			
Gly	Leu	Glu	Glu	Asp	Asp	Glu	Val	Phe	Glu	Val	Ile	Leu	Asn	Ser	Pro
	50					55					60				
Val	Asn	Ala	Val	Leu	Gly	Thr	Lys	Thr	Lys	Ala	Ala	Val	Lys	Ile	Leu
65					70					75				80	
Asp	Ser	Lys	Gly	Gly	Gln	Cys	His	Pro	Ser	Tyr	Ser	Ser	Asn	Gln	Ser
			85						90					95	
Lys	His	Ser	Thr	Trp	Glu	Lys	Gly	Ile	Trp	His	Leu	Leu	Pro	Pro	Gly
			100					105					110		
Ser	Ser	Ser	Ser	Thr	Thr	Ser	Gly	Ser	Phe	His	Leu	Glu	Arg	Arg	Pro
			115				120					125			
Leu	Pro	Ser	Ser	Met	Gln	Leu	Ala	Val	Ile	Arg	Gly	Asp	Thr	Leu	Arg
			130			135					140				
Gly	Phe	Asp	Ser	Thr	Asp	Leu	Ser	Gln	Arg	Lys	Leu	Arg	Thr	Arg	Gly
145					150					155				160	
Asn	Gly	Lys	Thr	Val	Arg	Pro	Ser	Ser	Val	Tyr	Arg	Asn	Gly	Thr	Asp

```
<210> 4299
<211> 988
<212> DNA
<213> Homo sapiens
```

3495

gctgcaggca gcgagtgggtg cgggcccgt gcatctcctc actgtcacgc agggctcttct  
 540  
 ccagcccctg aaggccttgg gtcagggccc catacagctc ctgccggccc tgctccatgc  
 600  
 cccacttggtg ctctccttc tctccatggc ggctgtggg gctcagcacc tcttcaagct  
 660  
 gctgaatctt gatttgctgc aagcagctct cttctccaa catgggtcact gagtgggttca  
 720  
 ggaactcgaa agccttggtc tgggcctgta actgggtctt gagtgactca agttcacatc  
 780  
 gcaggagctt ctgggagtcg ggaatcatca caatgggtctt ggctttgact ttggaagagc  
 840  
 tggtctccaa gggtttcaca taccacctgt tcatgctctn cccatcaggg accacgaagc  
 900  
 cagtcctcag ctgtgacgct gaagtttgat cccgcgggga caccatcgta ttaaaacgct  
 960  
 cagagactga gtcacagaga ggggtgtc  
 988

<210> 4300

<211> 84

<212> PRT

<213> Homo sapiens

<400> 4300

Gly	Cys	Leu	Trp	Ser	Ser	Ala	Ala	Arg	Ala	Gln	Gln	Thr	Ile	Tyr	His
1				5				10						15	
Ser	Val	Pro	Ser	Gly	Gly	His	Pro	Ser	Ser	Ser	His	Trp	Leu	Pro	Ala
			20				25					30			
Val	Ser	Leu	Gln	Ser	Pro	Asp	Arg	Arg	Leu	Ser	His	Asp	Pro	Ala	Ala
		35				40					45				
Ser	Ser	Trp	Ser	Gly	Phe	Cys	Gly	Ile	Ser	Pro	Ala	Phe	Ser	Ala	Phe
	50				55					60					
Ser	Glu	Cys	Ser	Pro	Ser	Ser	Leu	Arg	Ser	His	Pro	Pro	Ala	Leu	Gly
65				70					75					80	
Ala	Ser	Asp	Arg												

<210> 4301

<211> 2429

<212> DNA

<213> Homo sapiens

<400> 4301

nnaggcaccg cggcgctcgg gtgttttttg gggcccgggt ggagggcccg ggtgccgggg  
 60  
 cccaagggtgc ggctcgtcta gcgggagagg gagcgggata accggcccgg agagagctct  
 120  
 cagggccaga gcggggcagg aggatgcttt cccagcccca ccatggagct gcgctgtggg  
 180  
 ggattgctgt tcagttctcg ctttgattca gggaatctag cccacgtgga gaaggtggaa  
 240  
 tctttgtcca gtgatgggga aggggtagga ggtggggcgt cagccctgac cagtggcatt  
 300

gcctcttccc ctgactatga attcaacgtg tggacccgac cagactgtgc tgaaacggaa  
360  
tttgagaatg ggaacaggtc atggttctac ttcagcgtcc ggggaggaat gccaggaaaa  
420  
ctcatcaaga tcaacattat gaacatgaac aagcagagca agctgtattc ccagggcatg  
480  
gccccctttg tgcgcacact gcccacccgg ccacgctggg aacgcattcg agaccggccc  
540  
acctttgaga tgacagagac gcagtttgtg ttatcctttg ttcacgtttt cgtggagggc  
600  
cgtggggcca ccaccttctt cgccttctgc tacccttctt cctacagtga ctgccaggaa  
660  
ctgctaaacc agctagacca gcgctttccg gagaaccacc ctacccatag cagccccctg  
720  
gataccatct attaccatcg ggagctcctt tgctattctc tggatggact tcgtgtagat  
780  
ctgctgacga tcacttctcg ccatgggctt cgagaagatc gagagccccg tctagagcag  
840  
ctatttctcg ataccagcac ccctcgacca ttccgtttcg caggcaagag gatattcttc  
900  
ttaagcagta gagtacaccc aggggagact ccatctagct ttgtcttcaa tggctttctg  
960  
gacttcatcc tccgacctga tgatccccgg gcccaaacc tccgtcgcct ctctgtcttt  
1020  
aagctgattc ccatgttgaa ccccgatggg gtgggtccggg gacactaccg cacagactca  
1080  
cgtggagtga atctgaaccg tcagtacctg aagcctgatg ccgtcctgca cccggccatc  
1140  
tatggggcca aagctgtgct tctctaccac catgtgcact ctctgtctgaa ctcccagagt  
1200  
tcctctgagc accagcccag ttctgtctc cctcctgatg ctctgtttc tgacctggag  
1260  
aaagccaaca atctccaaaa tgaagctcag tgtgggcaact cagctgacag gcataacgct  
1320  
gaagcctgga aacaaacaga gccagcagaa cagaagctca acagtgtgtg gattatgcc  
1380  
caacagtctg cggggcttga agagtcagcc cctgatacca tccccccaa agagagtggc  
1440  
gttgcttact atgtggacct gcatggacat gcttccaaaa ggggctgctt catgtacgga  
1500  
aacagcttta gtgatgagag caccaggtg gaaaacatgc tatatccaaa gctcatctcc  
1560  
ttgaattcag ccacttctga ctccagggc tgcaatttct cagagaagaa tatgtatgcc  
1620  
cgagaccgta gagatggcca gtctaaagag ggaagcggcc gtgttgcaat ctacaaagcc  
1680  
tcagggataa tccacagcta cacacttgaa tgcaactaca aactggacg ctcagtaaac  
1740  
agcatccctg ctgcctgcca tgacaatggg cgtgccagcc cccctcccc gccggctttc  
1800  
ccctccagat aactgtgga actatttgag cagggtgggac gagctatggc cattgcagcc  
1860  
ctggacatgg cggaatgtaa tccgtggccc cgaattgtac tgtcagagca cagcagcctt  
1920

actaatctac gggcctggat gctgaaacat gtacgcaaca gccgaggcct aagcagcact  
 1980  
 ctgaatgtgg gtgtcaacaa gaagaggggc cttcgaactc cacccaaaag tcacaatggg  
 2040  
 ttgcctgtct cctgctccga aaacaccttg agtcgggcac gaagtttttag caccggcaca  
 2100  
 agtgccgggtg gtagcagcag cagccaacaa aattctccac agatgaagaa ttcccccagc  
 2160  
 tttccttttc atggcagtcg gcctgcaggg ctgccaggcc tgggctctag tacccaaaag  
 2220  
 gtcacccacc ggggtgctggg ccccgtcaga ggtaagccag tctgggagcc cctgcaacat  
 2280  
 gtgttcgggt gtctggggca ttgctggggg aagtaagagc ttgaagatat actgttggcc  
 2340  
 caggaccaag ggggtgaatca ataaaattag tttgtagcag aaaaaaaaaa aaaaaaaaaa  
 2400  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2429

<210> 4302

<211> 717

<212> PRT

<213> Homo sapiens

<400> 4302

Met	Glu	Leu	Arg	Cys	Gly	Gly	Leu	Leu	Phe	Ser	Ser	Arg	Phe	Asp	Ser
1				5					10					15	
Gly	Asn	Leu	Ala	His	Val	Glu	Lys	Val	Glu	Ser	Leu	Ser	Ser	Asp	Gly
			20					25					30		
Glu	Gly	Val	Gly	Gly	Gly	Ala	Ser	Ala	Leu	Thr	Ser	Gly	Ile	Ala	Ser
		35				40						45			
Ser	Pro	Asp	Tyr	Glu	Phe	Asn	Val	Trp	Thr	Arg	Pro	Asp	Cys	Ala	Glu
	50					55					60				
Thr	Glu	Phe	Glu	Asn	Gly	Asn	Arg	Ser	Trp	Phe	Tyr	Phe	Ser	Val	Arg
65				70					75					80	
Gly	Gly	Met	Pro	Gly	Lys	Leu	Ile	Lys	Ile	Asn	Ile	Met	Asn	Met	Asn
			85					90						95	
Lys	Gln	Ser	Lys	Leu	Tyr	Ser	Gln	Gly	Met	Ala	Pro	Phe	Val	Arg	Thr
			100					105					110		
Leu	Pro	Thr	Arg	Pro	Arg	Trp	Glu	Arg	Ile	Arg	Asp	Arg	Pro	Thr	Phe
		115					120					125			
Glu	Met	Thr	Glu	Thr	Gln	Phe	Val	Leu	Ser	Phe	Val	His	Arg	Phe	Val
	130				135						140				
Glu	Gly	Arg	Gly	Ala	Thr	Phe	Phe	Ala	Phe	Cys	Tyr	Pro	Phe	Ser	
145				150					155					160	
Tyr	Ser	Asp	Cys	Gln	Glu	Leu	Leu	Asn	Gln	Leu	Asp	Gln	Arg	Phe	Pro
			165					170						175	
Glu	Asn	His	Pro	Thr	His	Ser	Ser	Pro	Leu	Asp	Thr	Ile	Tyr	Tyr	His
		180						185				190			
Arg	Glu	Leu	Leu	Cys	Tyr	Ser	Leu	Asp	Gly	Leu	Arg	Val	Asp	Leu	Leu
		195					200					205			
Thr	Ile	Thr	Ser	Cys	His	Gly	Leu	Arg	Glu	Asp	Arg	Glu	Pro	Arg	Leu
	210					215					220				
Glu	Gln	Leu	Phe	Pro	Asp	Thr	Ser	Thr	Pro	Arg	Pro	Phe	Arg	Phe	Ala

225                      230                      235                      240  
 Gly Lys Arg Ile Phe Phe Leu Ser Ser Arg Val His Pro Gly Glu Thr  
                                  245                      250                      255  
 Pro Ser Ser Phe Val Phe Asn Gly Phe Leu Asp Phe Ile Leu Arg Pro  
                                  260                      265                      270  
 Asp Asp Pro Arg Ala Gln Thr Leu Arg Arg Leu Phe Val Phe Lys Leu  
                                  275                      280                      285  
 Ile Pro Met Leu Asn Pro Asp Gly Val Val Arg Gly His Tyr Arg Thr  
                                  290                      295                      300  
 Asp Ser Arg Gly Val Asn Leu Asn Arg Gln Tyr Leu Lys Pro Asp Ala  
 305                                   310                      315                      320  
 Val Leu His Pro Ala Ile Tyr Gly Ala Lys Ala Val Leu Leu Tyr His  
                                  325                      330                      335  
 His Val His Ser Arg Leu Asn Ser Gln Ser Ser Ser Glu His Gln Pro  
                                  340                      345                      350  
 Ser Ser Cys Leu Pro Pro Asp Ala Pro Val Ser Asp Leu Glu Lys Ala  
                                  355                      360                      365  
 Asn Asn Leu Gln Asn Glu Ala Gln Cys Gly His Ser Ala Asp Arg His  
                                  370                      375                      380  
 Asn Ala Glu Ala Trp Lys Gln Thr Glu Pro Ala Glu Gln Lys Leu Asn  
 385                                   390                      395                      400  
 Ser Val Trp Ile Met Pro Gln Gln Ser Ala Gly Leu Glu Glu Ser Ala  
                                  405                      410                      415  
 Pro Asp Thr Ile Pro Pro Lys Glu Ser Gly Val Ala Tyr Tyr Val Asp  
                                  420                      425                      430  
 Leu His Gly His Ala Ser Lys Arg Gly Cys Phe Met Tyr Gly Asn Ser  
                                  435                      440                      445  
 Phe Ser Asp Glu Ser Thr Gln Val Glu Asn Met Leu Tyr Pro Lys Leu  
                                  450                      455                      460  
 Ile Ser Leu Asn Ser Ala His Phe Asp Phe Gln Gly Cys Asn Phe Ser  
 465                                   470                      475                      480  
 Glu Lys Asn Met Tyr Ala Arg Asp Arg Arg Asp Gly Gln Ser Lys Glu  
                                  485                      490                      495  
 Gly Ser Gly Arg Val Ala Ile Tyr Lys Ala Ser Gly Ile Ile His Ser  
                                  500                      505                      510  
 Tyr Thr Leu Glu Cys Asn Tyr Asn Thr Gly Arg Ser Val Asn Ser Ile  
                                  515                      520                      525  
 Pro Ala Ala Cys His Asp Asn Gly Arg Ala Ser Pro Pro Pro Pro Pro  
                                  530                      535                      540  
 Ala Phe Pro Ser Arg Tyr Thr Val Glu Leu Phe Glu Gln Val Gly Arg  
 545                                   550                      555                      560  
 Ala Met Ala Ile Ala Ala Leu Asp Met Ala Glu Cys Asn Pro Trp Pro  
                                  565                      570                      575  
 Arg Ile Val Leu Ser Glu His Ser Ser Leu Thr Asn Leu Arg Ala Trp  
                                  580                      585                      590  
 Met Leu Lys His Val Arg Asn Ser Arg Gly Leu Ser Ser Thr Leu Asn  
                                  595                      600                      605  
 Val Gly Val Asn Lys Lys Arg Gly Leu Arg Thr Pro Pro Lys Ser His  
                                  610                      615                      620  
 Asn Gly Leu Pro Val Ser Cys Ser Glu Asn Thr Leu Ser Arg Ala Arg  
 625                                   630                      635                      640  
 Ser Phe Ser Thr Gly Thr Ser Ala Gly Gly Ser Ser Ser Ser Gln Gln  
                                  645                      650                      655  
 Asn Ser Pro Gln Met Lys Asn Ser Pro Ser Phe Pro Phe His Gly Ser

			660					665					670				
Arg	Pro	Ala	Gly	Leu	Pro	Gly	Leu	Gly	Ser	Ser	Thr	Gln	Lys	Val	Thr		
		675						680					685				
His	Arg	Val	Leu	Gly	Pro	Val	Arg	Gly	Lys	Pro	Val	Trp	Glu	Pro	Leu		
	690					695					700						
Gln	His	Val	Phe	Gly	Cys	Leu	Gly	His	Cys	Trp	Gly	Lys					
705					710					715							

&lt;210&gt; 4303

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4303

```

acgcgtgcag caagagagct ggacaatctg cagtatcgaa agatgaagaa actccttttc
60
caggaggcac ataatggacc agcagtagaa gcacaggaag aagaagagga acaagatcat
120
ggtgttgccc ggacaggaac agttaatagt gttggaagta atcaatccat tcccagcatg
180
tccatcagtg ccagcagcca aagcagtagt gttaacagtc ttccagatgt ctcagatgac
240
aagagtgagc tagacatgat ggaggggagac cacacagtga tgtctaacag ttctgttata
300
catttaaaac cagaggaaga aaattacaga gaagaggagg atcctagaac aagagcatca
360
gatccacaat ctccacccca agtatctcgt cacaatcac actatcgtaa tcgagaacac
420
tttgctacta tacggacagc atcactgggtt acgaggcaaa tgcaagaaca tgagcaggac
480
tctgagctta gagaacaaat gtctggctat aagcgaatga ggcgacaaca tcaaaagcaa
540
ctgatgactc tggaaaacaa gctaaaggct gagatggatg aacatcgctt cagattagac
600
aaagatcttg aaactcagcg taacaatttt gctgcagaaa tggagaaaact tatcaagaaa
660
caccaggctg ctatggagaa agaggctaaa gtgatgtcca atgaagagaa aaaatttcag
720
caacatattc aggcccaaca gaagaaagaa ctgaatagtt ttctcgag
768

```

&lt;210&gt; 4304

&lt;211&gt; 256

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4304

Thr	Arg	Ala	Ala	Arg	Glu	Leu	Asp	Asn	Leu	Gln	Tyr	Arg	Lys	Met	Lys		
1				5					10					15			
Lys	Leu	Leu	Phe	Gln	Glu	Ala	His	Asn	Gly	Pro	Ala	Val	Glu	Ala	Gln		
		20						25				30					
Glu	Glu	Glu	Glu	Glu	Gln	Asp	His	Gly	Val	Gly	Arg	Thr	Gly	Thr	Val		
	35					40					45						
Asn	Ser	Val	Gly	Ser	Asn	Gln	Ser	Ile	Pro	Ser	Met	Ser	Ile	Ser	Ala		



50		55		60
Ser Ser Gln Ser Ser Ser Val Asn Ser Leu Pro Asp Val Ser Asp Asp				
65		70		75
Lys Ser Glu Leu Asp Met Met Glu Gly Asp His Thr Val Met Ser Asn				80
	85		90	95
Ser Ser Val Ile His Leu Lys Pro Glu Glu Asn Tyr Arg Glu Glu				
	100		105	110
Gly Asp Pro Arg Thr Arg Ala Ser Asp Pro Gln Ser Pro Pro Gln Val				
	115		120	125
Ser Arg His Lys Ser His Tyr Arg Asn Arg Glu His Phe Ala Thr Ile				
	130		135	140
Arg Thr Ala Ser Leu Val Thr Arg Gln Met Gln Glu His Glu Gln Asp				
	145		150	155
Ser Glu Leu Arg Glu Gln Met Ser Gly Tyr Lys Arg Met Arg Arg Gln				
	165		170	175
His Gln Lys Gln Leu Met Thr Leu Glu Asn Lys Leu Lys Ala Glu Met				
	180		185	190
Asp Glu His Arg Leu Arg Leu Asp Lys Asp Leu Glu Thr Gln Arg Asn				
	195		200	205
Asn Phe Ala Ala Glu Met Glu Lys Leu Ile Lys Lys His Gln Ala Ala				
	210		215	220
Met Glu Lys Glu Ala Lys Val Met Ser Asn Glu Glu Lys Lys Phe Gln				
	225		230	235
Gln His Ile Gln Ala Gln Gln Lys Lys Glu Leu Asn Ser Phe Leu Glu				
	245		250	255

&lt;210&gt; 4305

&lt;211&gt; 3400

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4305

```

atggctggga tggacagtgg caacctgaag accgcgagggc tgtggcgaggc cgccgcctgc
60
cgtgccagga agctgcggag caacctgcgc cagctcacgc tcaccgccgc cggggcctgc
120
cccggggccg gggccgacgc gctcgagtcc cccgcctccc cccagctcgt gctgccggcc
180
aacctcgggg acattgaggg actgaacctg gggaacaacg gcctggagga ggtacccgag
240
gggctggggg cggcgctggg cagcctgcgc gtcctggtcc tgcgcaggaa ccgcttcgcc
300
cggctgcccc cggcggtggc cgagctcggc caccacctca ccgagctgga cgtgagccac
360
aaccggctga ccgccttggg cgcggaggtg gtgagtgtc tgagggagct gcggaagctc
420
aacctcagcc acaaccagct gcccgccctg cccgcccagc tgggcgctct cgctcacctg
480
gaggagctgg atgtcagctt taaccggctg gcgcacctgc ctgactccct ctctgcctc
540
tcccgcctgc gcacctgga cgtggatcac aaccagctca ctgccttccc ccggcagctg
600
ctgcagctgg tggccctgga ggagctggac gtgtccagca accggctgcg gggcctgcct
660

```

gaggatatca gtgccctgcg tgcctcaag atcctctggc tgagtggggc cgagcttggc  
720  
acgtgccccg ccggcttctg cgagctggcc agtttgagaga gcctcatgct agacaacaac  
780  
gggctgcagg ctctgcccgc ccagttcagc tgcctgcagc ggctcaaaat gctcaacctg  
840  
tcctccaacc tcttcgagga gttccctgcc gcgctgctgc ccctggctgg tctggaggag  
900  
ctctacctta gtgcacaacca gctcacctcg gtgccatccc ttatctcggg cctgggcccg  
960  
cttctcacct tgtggctgga taataaccgc atccgctacc tgccggactc catcgtggag  
1020  
ctgaccggcc tggaggagct cgtgctgcag gggaaccaga tcgcggtgct gcccgaccac  
1080  
tttgggccagc tctcccggtt gggtttgtgg aagatcaaag acaaccact gatccagccc  
1140  
ccctacgagg tctgcatgaa ggggatcccc tacatgcag cctaccagaa ggaactggct  
1200  
cattcccagc cggcggtgca gcccggctc aagctgctcc tgatggggca taaggctgca  
1260  
ggaaagactt tgctgcgcca ctgcctcacc gaggagagag tggagggatg cccaggagga  
1320  
ggggacaagg agaagtgcta ccacccgtca cctccccctg tgagcaaggg catcgaggtg  
1380  
accagctgga cggccgatgc ctcccggggc ctgcggttca tcgtgtatga cttagctggg  
1440  
gatgaaagtt atgaggtgat ccagcccttc ttctgtccc cagggggcct atacgtgctg  
1500  
gtggtcaact tggccacctg tgagcctcgc cactttccta ccaccgtggg ctcttcttg  
1560  
catcgggtcg gggcgagagt gcccaacgcg gtggtgtgca tcgtgggcac ccacgcagac  
1620  
ctgtgcggag agcgtgagct ggaggagaaa tgtctggaca ttcaccgcca gatcgccctg  
1680  
caggagaagc acgacgcgga gggactgagc cgcttgacca aggtggtgga cgaggcactg  
1740  
gcccgggact tcgagctgcg ctctgccagc cccacgcag cctactatgg cgtttcggac  
1800  
aagaaccttc gacggcgcaa ggccatttt caatacctgc tcaaccaccg gctgcagatc  
1860  
ctctcccccg tgttgctgt tagctgcagg gaccgcgccc acttacgacg ccttcgggac  
1920  
aagttgctgt cagttgctga gcaccgagag atcttcccca acttacacag agtactgct  
1980  
cgatcctggc aggtgctgga ggaactgcat ttccagccac ctcaggccca gcgactgtgg  
2040  
ctaagctggt gggactcggc gcgcttgggc ctgcaggcgg gtctgaccga ggaccgactg  
2100  
cagagtccc tctctacct gcatgagagc ggcaagctac tctactttga ggacagtccg  
2160  
gctctcaagg agcacgtctt ccacaacctc acccgctca tcgacatcct caatgtcttc  
2220  
ttccagaggg atccctcttt gctgctgcat aagctgctcc tagggaccag tggagagggc  
2280

aaggcggagg gggaaagctc cccgcccattg gcgcgggtcca cccccagcca ggaactgctc  
2340  
cgggccaccc agctccatca gtatgtggag ggctttctgt tgcattgggt cttgccagct  
2400  
catgtcattc gggtgctgct taagcctcat gtccaggccc agcaggactt gcagctgttg  
2460  
ctggagctgc tggagaagat gggactctgt tactgcctca ataaacccaa gggcaagcct  
2520  
ttgaatgggt ccacagcttg gtacaagttc ccatgctatg tgcagaacga ggtgccccat  
2580  
gcagaagcct ggattaatgg gaccaaccta gctgggcagt cttttgtggc tgagcagttg  
2640  
cagattgaat atagctttcc ttttactttt ccacctgggt tgtttgcacg ctacagtgtc  
2700  
cagatcaaca gccatgtggt gcacaggctg gatggtaaatt ttcagatctt tgcctataga  
2760  
gggaaagtgc ctgtggttgt gagttacaga cctgccaggg gagtcctgca gccagacacc  
2820  
ctgtccattg ctagccatgc atcattacca aatatatgga ccgcatggca agccataacc  
2880  
cccttggtgg aggaactgaa tgtcctactt caggaatggc ctggactgca ctacaccgtg  
2940  
cacattctct gttctaagt ccttaagaga ggatcgccca atccacatgc tttccaggg  
3000  
gagttgctga gtcagcccag accggaagga gtggcagaga tcatttgccc caagaacggc  
3060  
agcgagcgag taaatgttgc cttgggtttac ccaccacgc cgactgtgat cagcccctgt  
3120  
tccaagaaga atgttggtga aaagcacaga aaccagtgc gtttgtggct gtggaatttc  
3180  
catggagaaa agagagcatc tgaacacctg gaccatcttt tgcacctggc agaccctctg  
3240  
cactaccccc agcgtgttct gtgaacttga gtgacaacgc gtgcttgacg ggtgcttttt  
3300  
ggatgactgg ggaagagggtg gggagagggg tgggtggggg aagcatggac gagaacatgg  
3360  
agcaaagtgt ttacaacctg aacctcagaa ctgtgatctc  
3400

&lt;210&gt; 4306

&lt;211&gt; 1052

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4306

Met	Ala	Gly	Met	Asp	Ser	Gly	Asn	Leu	Lys	Thr	Ala	Arg	Leu	Trp	Arg
1			5						10					15	
Asp	Ala	Ala	Leu	Arg	Ala	Arg	Lys	Leu	Arg	Ser	Asn	Leu	Arg	Gln	Leu
			20					25					30		
Thr	Leu	Thr	Ala	Ala	Gly	Ala	Cys	Pro	Gly	Ala	Gly	Ala	Asp	Ala	Leu
			35				40					45			
Glu	Ser	Pro	Ala	Ser	Pro	Gln	Leu	Val	Leu	Pro	Ala	Asn	Leu	Gly	Asp
			50			55					60				
Ile	Glu	Ala	Leu	Asn	Leu	Gly	Asn	Asn	Gly	Leu	Glu	Glu	Val	Pro	Glu

65                                      70                                      75                                      80  
 Gly Leu Gly Ser Ala Leu Gly Ser Leu Arg Val Leu Val Leu Arg Arg  
    85                                      90                                      95  
 Asn Arg Phe Ala Arg Leu Pro Pro Ala Val Ala Glu Leu Gly His His  
    100                                      105                                      110  
 Leu Thr Glu Leu Asp Val Ser His Asn Arg Leu Thr Ala Leu Gly Ala  
    115                                      120                                      125  
 Glu Val Val Ser Ala Leu Arg Glu Leu Arg Lys Leu Asn Leu Ser His  
    130                                      135                                      140  
 Asn Gln Leu Pro Ala Leu Pro Ala Gln Leu Gly Ala Leu Ala His Leu  
 145                                      150                                      155                                      160  
 Glu Glu Leu Asp Val Ser Phe Asn Arg Leu Ala His Leu Pro Asp Ser  
    165                                      170                                      175  
 Leu Ser Cys Leu Ser Arg Leu Arg Thr Leu Asp Val Asp His Asn Gln  
    180                                      185                                      190  
 Leu Thr Ala Phe Pro Arg Gln Leu Gln Leu Val Ala Leu Glu Glu  
    195                                      200                                      205  
 Leu Asp Val Ser Ser Asn Arg Leu Arg Gly Leu Pro Glu Asp Ile Ser  
    210                                      215                                      220  
 Ala Leu Arg Ala Leu Lys Ile Leu Trp Leu Ser Gly Ala Glu Leu Gly  
 225                                      230                                      235                                      240  
 Thr Leu Pro Ala Gly Phe Cys Glu Leu Ala Ser Leu Glu Ser Leu Met  
    245                                      250                                      255  
 Leu Asp Asn Asn Gly Leu Gln Ala Leu Pro Ala Gln Phe Ser Cys Leu  
    260                                      265                                      270  
 Gln Arg Leu Lys Met Leu Asn Leu Ser Ser Asn Leu Phe Glu Glu Phe  
    275                                      280                                      285  
 Pro Ala Ala Leu Leu Pro Leu Ala Gly Leu Glu Glu Leu Tyr Leu Ser  
    290                                      295                                      300  
 Arg Asn Gln Leu Thr Ser Val Pro Ser Leu Ile Ser Gly Leu Gly Arg  
 305                                      310                                      315                                      320  
 Leu Leu Thr Leu Trp Leu Asp Asn Asn Arg Ile Arg Tyr Leu Pro Asp  
    325                                      330                                      335  
 Ser Ile Val Glu Leu Thr Gly Leu Glu Glu Leu Val Leu Gln Gly Asn  
    340                                      345                                      350  
 Gln Ile Ala Val Leu Pro Asp His Phe Gly Gln Leu Ser Arg Val Gly  
    355                                      360                                      365  
 Leu Trp Lys Ile Lys Asp Asn Pro Leu Ile Gln Pro Pro Tyr Glu Val  
    370                                      375                                      380  
 Cys Met Lys Gly Ile Pro Tyr Ile Ala Ala Tyr Gln Lys Glu Leu Ala  
 385                                      390                                      395                                      400  
 His Ser Gln Pro Ala Val Gln Pro Arg Leu Lys Leu Leu Leu Met Gly  
    405                                      410                                      415  
 His Lys Ala Ala Gly Lys Thr Leu Leu Arg His Cys Leu Thr Glu Glu  
    420                                      425                                      430  
 Arg Val Glu Gly Cys Pro Gly Gly Gly Asp Lys Glu Lys Cys Tyr Pro  
    435                                      440                                      445  
 Pro Ser Pro Pro Pro Val Ser Lys Gly Ile Glu Val Thr Ser Trp Thr  
    450                                      455                                      460  
 Ala Asp Ala Ser Arg Gly Leu Arg Phe Ile Val Tyr Asp Leu Ala Gly  
 465                                      470                                      475                                      480  
 Asp Glu Ser Tyr Glu Val Ile Gln Pro Phe Phe Leu Ser Pro Gly Ala  
    485                                      490                                      495  
 Leu Tyr Val Leu Val Val Asn Leu Ala Thr Tyr Glu Pro Arg His Phe

			500				505				510				
Pro	Thr	Thr	Val	Gly	Ser	Phe	Leu	His	Arg	Val	Gly	Ala	Arg	Val	Pro
			515				520				525				
Asn	Ala	Val	Val	Cys	Ile	Val	Gly	Thr	His	Ala	Asp	Leu	Cys	Gly	Glu
			530				535				540				
Arg	Glu	Leu	Glu	Glu	Lys	Cys	Leu	Asp	Ile	His	Arg	Gln	Ile	Ala	Leu
545				550				555				560			
Gln	Glu	Lys	His	Asp	Ala	Glu	Gly	Leu	Ser	Arg	Leu	Ala	Lys	Val	Val
			565				570				575				
Asp	Glu	Ala	Leu	Ala	Arg	Asp	Phe	Glu	Leu	Arg	Ser	Ala	Ser	Pro	His
			580				585				590				
Ala	Ala	Tyr	Tyr	Gly	Val	Ser	Asp	Lys	Asn	Leu	Arg	Arg	Arg	Lys	Ala
			595				600				605				
His	Phe	Gln	Tyr	Leu	Leu	Asn	His	Arg	Leu	Gln	Ile	Leu	Ser	Pro	Val
			610				615				620				
Leu	Pro	Val	Ser	Cys	Arg	Asp	Pro	Arg	His	Leu	Arg	Arg	Leu	Arg	Asp
625				630				635				640			
Lys	Leu	Leu	Ser	Val	Ala	Glu	His	Arg	Glu	Ile	Phe	Pro	Asn	Leu	His
			645				650				655				
Arg	Val	Leu	Pro	Arg	Ser	Trp	Gln	Val	Leu	Glu	Glu	Leu	His	Phe	Gln
			660				665				670				
Pro	Pro	Gln	Ala	Gln	Arg	Leu	Trp	Leu	Ser	Trp	Trp	Asp	Ser	Ala	Arg
			675				680				685				
Leu	Gly	Leu	Gln	Ala	Gly	Leu	Thr	Glu	Asp	Arg	Leu	Gln	Ser	Ala	Leu
			690				695				700				
Ser	Tyr	Leu	His	Glu	Ser	Gly	Lys	Leu	Leu	Tyr	Phe	Glu	Asp	Ser	Pro
705				710				715				720			
Ala	Leu	Lys	Glu	His	Val	Phe	His	Asn	Leu	Thr	Arg	Leu	Ile	Asp	Ile
			725				730				735				
Leu	Asn	Val	Phe	Gln	Arg	Asp	Pro	Ser	Leu	Leu	Leu	Leu	His	Lys	Leu
			740				745				750				
Leu	Leu	Gly	Thr	Ser	Gly	Glu	Gly	Lys	Ala	Glu	Gly	Glu	Ser	Ser	Pro
			755				760				765				
Pro	Met	Ala	Arg	Ser	Thr	Pro	Ser	Gln	Glu	Leu	Leu	Arg	Ala	Thr	Gln
			770				775				780				
Leu	His	Gln	Tyr	Val	Glu	Gly	Phe	Leu	Leu	His	Gly	Leu	Leu	Pro	Ala
785				790				795				800			
His	Val	Ile	Arg	Leu	Leu	Leu	Lys	Pro	His	Val	Gln	Ala	Gln	Gln	Asp
			805				810				815				
Leu	Gln	Leu	Leu	Leu	Glu	Leu	Leu	Glu	Lys	Met	Gly	Leu	Cys	Tyr	Cys
			820				825				830				
Leu	Asn	Lys	Pro	Lys	Gly	Lys	Pro	Leu	Asn	Gly	Ser	Thr	Ala	Trp	Tyr
			835				840				845				
Lys	Phe	Pro	Cys	Tyr	Val	Gln	Asn	Glu	Val	Pro	His	Ala	Glu	Ala	Trp
			850				855				860				
Ile	Asn	Gly	Thr	Asn	Leu	Ala	Gly	Gln	Ser	Phe	Val	Ala	Glu	Gln	Leu
865				870				875				880			
Gln	Ile	Glu	Tyr	Ser	Phe	Pro	Phe	Thr	Phe	Pro	Pro	Gly	Leu	Phe	Ala
			885				890				895				
Arg	Tyr	Ser	Val	Gln	Ile	Asn	Ser	His	Val	Val	His	Arg	Ser	Asp	Gly
			900				905								

930                      935                      940  
 Ser His Ala Ser Leu Pro Asn Ile Trp Thr Ala Trp Gln Ala Ile Thr  
 945                      950                      955                      960  
 Pro Leu Val Glu Glu Leu Asn Val Leu Leu Gln Glu Trp Pro Gly Leu  
                     965                      970                      975  
 His Tyr Thr Val His Ile Leu Cys Ser Lys Cys Leu Lys Arg Gly Ser  
                     980                      985                      990  
 Pro Asn Pro His Ala Phe Pro Gly Glu Leu Leu Ser Gln Pro Arg Pro  
                     995                      1000                      1005  
 Glu Gly Val Ala Glu Ile Ile Cys Pro Lys Asn Gly Ser Glu Arg Val  
                     1010                      1015                      1020  
 Asn Val Ala Leu Val Tyr Pro Pro Thr Pro Thr Val Ile Ser Pro Cys  
 1025                      1030                      1035                      1040  
 Ser Lys Lys Asn Val Gly Glu Lys His Arg Asn Gln  
                     1045                      1050

<210> 4307  
 <211> 947  
 <212> DNA  
 <213> Homo sapiens

<400> 4307  
 tgtacagcct gcagaggacc agccctgaaa agaattgagag agtccgccag atgcgccccg  
 60  
 tgtgtgactg ccaggctcac ctgctctgga accggcctcg gtttggagag atcaatgacc  
 120  
 aggacagaac tgatcgatac gtccaggctc tgaggaccgt ctctctctctc ctgggcgagc  
 180  
 cgttcttcac taccagcctg ctgccgtggc acaacctcta cttctggtac gtgcggacgc  
 240  
 tgtggaccag cacctggggc caggtgccat ggtgatgccc caggcagcct cgctgcacgc  
 300  
 tgtggttggt gagttcaggg tgtgcagggg acagcaagat gtgcctcttg ttcttgctgc  
 360  
 cacgcttccc tgtgtcctgc gggcgggtgt ggatggggct gctccttctc cacaggancc  
 420  
 tgtggcggtat ccggagccnc ctgtggtgac tgcaaggct tcgacgtgca catcatggat  
 480  
 gacatgatta aggtaggcag ggccacactc tgcatagtcc ccccgacctg ctctgtatc  
 540  
 gcaggcctct cacagggtcc cagcttgggc agcacaggct cttctgttgg gggcagtgag  
 600  
 gtcagggtgt gccatthtgt gtggttcaac atgagcattg cttggtacca gccctgttct  
 660  
 tggctccgtg ctgtcaccct gtgtcagaat ctccactggg cctgcacgtc ctgtcattgc  
 720  
 aactgcccct gccagtgcc acagcttctt ttctagtggg gctgactttc cagaggccat  
 780  
 ctgggaacct tcttaggcag ccatttccat ggtgggggct ccattcccgg gaggggtacc  
 840  
 tgaggagatt cccacaggtt atttacatgg taggggttag caactgggcc tacgttctcc  
 900  
 agaaccatgg gctgtcctga cagcgccagt ggtccttgga ttcatga  
 947

<210> 4308  
 <211> 200  
 <212> PRT  
 <213> Homo sapiens

<400> 4308

```

Gly Pro Ser Leu Ser Ser Trp Ala Ser Arg Ser Ser Leu Pro Ala Cys
 1           5           10           15
Cys Arg Gly Thr Thr Ser Thr Ser Gly Thr Cys Gly Arg Cys Gly Pro
      20           25           30
Ala Pro Gly Ala Arg Cys His Gly Asp Ala Pro Gly Ser Leu Ala Ala
      35           40           45
Arg Cys Gly Cys Gly Val Gln Gly Val Gln Gly Thr Ala Arg Cys Ala
      50           55           60
Ser Cys Ser Cys Cys His Ala Ser Leu Cys Pro Ala Gly Gly Cys Gly
65           70           75           80
Trp Gly Cys Ser Phe Leu Thr Gly Xaa Cys Gly Gly Ser Gly Ala Xaa
      85           90           95
Cys Gly Asp Cys Glu Gly Phe Asp Val His Ile Met Asp Asp Met Ile
      100          105          110
Lys Val Gly Arg Ala Thr Leu Cys Ile Val Pro Pro Thr Cys Ser Cys
      115          120          125
Ile Ala Gly Leu Ser Gln Gly Pro Ser Leu Gly Ser Thr Gly Ser Ser
      130          135          140
Val Gly Gly Ser Glu Val Arg Cys Cys His Phe Val Trp Phe Asn Met
145          150          155          160
Ser Ile Ala Trp Tyr Gln Pro Cys Ser Trp Leu Arg Ala Val Thr Leu
      165          170          175
Cys Gln Asn Leu His Trp Ala Cys Thr Ser Cys His Cys Asn Cys Pro
      180          185          190
Cys Gln Cys Pro Gln Leu Leu Phe
      195          200

```

<210> 4309  
 <211> 1928  
 <212> DNA  
 <213> Homo sapiens

<400> 4309

```

tttttttttg agttactggc catttgaggt atttattaat gaagattaaa catccaaagg
60
gcagtcctca atgctcattt ccatgatttt aagagttgat aactccatgt catgattatt
120
gtcgcctttg aactggaga actgaacaga ttgggagggt gatgtgttaa gaccacataa
180
tccatttgaa atctcaacct tttcagggtc actatcacct tcaatgacat tcacagaagt
240
ttcccgatct gttaaactgt ctgaaatact tggatgattt tcatccaaag ttgaagtttc
300
aagatttggt tcatcattca cctgttgaat tataaccctt tctgaatgct ttgatttata
360
aataggcatg aaaaattcag ttggtgaagg gaatatctcg ttctcatcct ttggtgccga
420

```

caataacata tccaaagcct tttggtattg ttgacgttcc tgctgaattg ttacttcact  
480  
ttcattttttt aattcatttg gttctgaatt cccagccttt tcaaaatcaa atacattcaa  
540  
catatcaaca tcattttgct ttaccgagtt ttectccgat gtgcagccta agtctacttt  
600  
caggacatgc agcaggtggc gcattttttc ctctccaaa tgtttatttt gttttatatg  
660  
tcgctcgaac agtcgttcta aaaacctgtt tgaaaataaa ccaagtttca aaatttcac  
720  
tgttacatct tcaatgaaac tcagatacaa cagttcttct tcatcagagt agattttacg  
780  
agttgaaggg ggcttcaggg aatactgaca cattgccctt ggtgaggaat gctgaagagc  
840  
atcatcctta atctcatccc atgttgagtc atgcccttct aaaggtaaag gagctatttt  
900  
ttctttggca tcatatgtca cacaattaga tgcttgcttt atgttcattt ctgaatctgt  
960  
catgttttta gtctcagctg tccccaaactc agatttaaag ctttaattcag tctgggtttc  
1020  
agcttctatc cgttgatctg taaaatcctt ttttcttttg gcaggtgtat aatagcgata  
1080  
ctgtgacagg aaagattttg cttctgtttt taaagtgcga ggagtgaatg gcaattgttt  
1140  
gttagaaaag agttcagaat gtttatccaa aagatcccca ctgggtgctt tcgaaatgac  
1200  
taactgaaac cggtggaat ttgggaatgt gcttctgggc cttctgccat acagggtcc  
1260  
agagctcagt ttccggggcc cggaggctgc ataatccaca ctggacgggg aggaactgga  
1320  
gttcttctca ggaccatttg tgatgacttt actggattta tgtagactta ggtgtagtct  
1380  
ctctgaagag ggtactagtg accttgcaaa ggatgaaaat ccattcattt cttcttttaa  
1440  
catgtcatcc tcaatttgcg gttcgctga gggcttttgt aaggatttaa aaagtgactt  
1500  
ggaattattt ttataattgg ctgcattgc agttttagtt aatttgaact ctttttcaca  
1560  
ttgtgctaatt tcctttttga gtttctctct tcgttggttg tctgcatact ttatgctggt  
1620  
actcacgctt actggaaccg agcagtctac tgcagctttg gctgaaagga ttttattata  
1680  
gtgaacagcc atgtgattct tgaccagctg gagagtgctt agtctgagag aagaggagtc  
1740  
agtgcacaaa gcattacttt tgggtgctcaa gtgtccttta aataggcacg gtggaccata  
1800  
tctgggaagg acagaggttg ctctgactct ccggctgcc a tcatgctta gtctcttg  
1860  
agccgccgca gggacacgct gtataccctt cggtccttcc cgcgcgcgcc accccggcag  
1920  
tggaggac  
1928

&lt;210&gt; 4310



&lt;211&gt; 599

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4310

```

Met Asn Gly Ser Arg Arg Val Arg Ala Thr Ser Val Leu Pro Arg Tyr
 1           5           10           15
Gly Pro Pro Cys Leu Phe Lys Gly His Leu Ser Thr Lys Ser Asn Ala
      20           25           30
Phe Cys Thr Asp Ser Ser Ser Leu Arg Leu Ser Thr Leu Gln Leu Val
      35           40           45
Lys Asn His Met Ala Val His Tyr Asn Lys Ile Leu Ser Ala Lys Ala
      50           55           60
Ala Val Asp Cys Ser Val Pro Val Ser Val Ser Thr Ser Ile Lys Tyr
65           70           75           80
Ala Asp Gln Gln Arg Arg Glu Lys Leu Lys Lys Glu Leu Ala Gln Cys
      85           90           95
Glu Lys Glu Phe Lys Leu Thr Lys Thr Ala Met Arg Ala Asn Tyr Lys
      100          105          110
Asn Asn Ser Lys Ser Leu Phe Asn Thr Leu Gln Lys Pro Ser Gly Glu
      115          120          125
Pro Gln Ile Glu Asp Asp Met Leu Lys Glu Glu Met Asn Gly Phe Ser
      130          135          140
Ser Phe Ala Arg Ser Leu Val Pro Ser Ser Glu Arg Leu His Leu Ser
145          150          155          160
Leu His Lys Ser Ser Lys Val Ile Thr Asn Gly Pro Glu Lys Asn Ser
      165          170          175
Ser Ser Ser Pro Ser Ser Val Asp Tyr Ala Ala Ser Gly Pro Arg Lys
      180          185          190
Leu Ser Ser Gly Ala Leu Tyr Gly Arg Arg Pro Arg Ser Thr Phe Pro
      195          200          205
Asn Ser His Arg Phe Gln Leu Val Ile Ser Lys Ala Pro Ser Gly Asp
      210          215          220
Leu Leu Asp Lys His Ser Glu Leu Phe Ser Asn Lys Gln Leu Pro Phe
225          230          235          240
Thr Pro Arg Thr Leu Lys Thr Glu Ala Lys Ser Phe Leu Ser Gln Tyr
      245          250          255
Arg Tyr Tyr Thr Pro Ala Lys Arg Lys Lys Asp Phe Thr Asp Gln Arg
      260          265          270
Ile Glu Ala Glu Thr Gln Thr Glu Leu Ser Phe Lys Ser Glu Leu Gly
      275          280          285
Thr Ala Glu Thr Lys Asn Met Thr Asp Ser Glu Met Asn Ile Lys Gln
      290          295          300
Ala Ser Asn Cys Val Thr Tyr Asp Ala Lys Glu Lys Ile Ala Pro Leu
305          310          315          320
Pro Leu Glu Gly His Asp Ser Thr Trp Asp Glu Ile Lys Asp Asp Ala
      325          330          335
Leu Gln His Ser Ser Pro Arg Ala Met Cys Gln Tyr Ser Leu Lys Pro
      340          345          350
Pro Ser Thr Arg Lys Ile Tyr Ser Asp Glu Glu Glu Leu Leu Tyr Leu
      355          360          365
Ser Phe Ile Glu Asp Val Thr Asp Glu Ile Leu Lys Leu Gly Leu Phe
      370          375          380
Ser Asn Arg Phe Leu Glu Arg Leu Phe Glu Arg His Ile Lys Gln Asn

```

```
<210> 4311
<211> 432
<212> DNA
<213> Homo sapiens
```

```
<210> 4312
<211> 144
<212> PRT
```

<213> Homo sapiens

<400> 4312

```

Xaa Arg Val Lys Gly Ile Arg Pro Trp Asn Cys Gln Arg Cys Phe Ala
 1           5           10          15
His Tyr Asp Val Gln Ser Ile Leu Phe Asn Ile Asn Glu Ala Met Ala
      20           25          30
Thr Arg Ala Asn Val Gly Lys Arg Lys Asn Ile Thr Thr Gly Ala Ser
      35           40          45
Ala Ala Ser Gln Thr Gln Met Pro Thr Gly Gln Thr Gly Asn Cys Glu
      50           55          60
Ser Pro Leu Gly Ser Lys Glu Asp Leu Asn Ser Lys Glu Asn Leu Asp
      65           70          75          80
Ala Asp Glu Gly Asp Gly Lys Ser Asn Asp Leu Val Leu Ser Cys Pro
      85           90          95
Tyr Phe Arg Asn Glu Thr Gly Gly Glu Gly Asp Arg Arg Ile Ala Leu
      100          105          110
Ser Arg Ala Asn Ser Ser Ser Phe Ser Ser Gly Glu Ser Cys Ser Phe
      115          120          125
Glu Ser Ser Leu Ser Ser His Cys Thr Asn Ala Gly Val Ser Val Leu
      130          135          140

```

<210> 4313

<211> 936

<212> DNA

<213> Homo sapiens

<400> 4313

```

ggatccctcc tttttcctcc cctgccctgc ccaggcccag atggccttga ctgtaaagcc
60
agggtgctgcc tgacagggttc ttctctccct gtctctggtc attgatccat ctctttgtcc
120
attcagtatc caaccatcct ctccattctc ctctggacct caccactctc agagctgctt
180
gtcctggcag aatctacagt tcaccccaac tctatgcctt acccctccca acccaacagc
240
atttgcagtt tgcaaaatat acagacccaa gtcctgaggg gactgaggac atgatgctgg
300
gcccaagtct cctgctcagg gcttctctcc aatgccagcc ctgccactcc ttctcacc
360
tccttggagc ctctctgct gcttgtctat cccaacggcc ctgctccct cccttctgc
420
ccttcaccag ctttctggga caccatgccc tgaggaaggg acctttgggt ttctctaaac
480
atctttgaag ggctgaggca gtcagggtg gctgccttgt cactctttat ttggaagcca
540
ctcaaacat tccaagaag agggacctca gctggcaatc tggaaacctg gcccaggtct
600
gggcagatgt cttcacttct cctaccttcc cagtcttgtg atcctgtgat gaggaccagg
660
atggccctgt ggtccctaga gcacccctca tgctgtaggg tcctgcagcc ccataccttc
720
tctactgggc cctggtatcc tggetcctct ctcagctctg ccactgatct ctgtgcctta
780

```

gtttacttct ctgcacgggg gactcacccc aagaccattt ccagcagctt cccaggtgat  
840  
gtggtgcccc aaggctgggc tttgcagctg tggcccagct ccttagtgct gcccaggaga  
900  
caccaggctg ctcagaatga ggtgactgcg ggcaac  
936

<210> 4314  
<211> 110  
<212> PRT  
<213> Homo sapiens

<400> 4314  
Met Ser Ser Leu Leu Leu Pro Ser Gln Ser Cys Asp Pro Val Met Ser  
1 5 10 15  
Thr Arg Met Ala Leu Trp Ser Leu Glu His Pro Ser Cys Cys Arg Val  
20 25 30  
Leu Gln Pro His Pro Phe Ser Thr Gly Pro Trp Tyr Pro Gly Ser Ser  
35 40 45  
Leu Ser Ser Ala Thr Asp Leu Cys Ala Leu Val Tyr Phe Ser Ala Arg  
50 55 60  
Gly Thr His Pro Lys Thr Ile Ser Ser Ser Phe Pro Gly Asp Val Val  
65 70 75 80  
Pro Gln Gly Trp Ala Leu Gln Leu Trp Pro Ser Ser Leu Val Leu Pro  
85 90 95  
Arg Arg His Gln Ala Ala Gln Asn Glu Val Thr Ala Gly Asn  
100 105 110

<210> 4315  
<211> 573  
<212> DNA  
<213> Homo sapiens

<400> 4315  
nnctaatcc aatatgactg gtgtccttat aagaagagga aattaggaca cagacaggca  
60  
cagagcgatg accatgtgaa gacacaggga agagatggcc acctaccacc acgccatggt  
120  
cacctaccat ccaagccatg gtcaccttca ccaagccaca gtcattctacc atccaagcca  
180  
ccgtcaccta ccatccaagc catggccacc tacctgcca gccatggcca cctaccgcc  
240  
aagccatggt cacctacca ccaagtcatg gtcgcctacc atccaaggag caggcctgga  
300  
acagatcctt cccagagcc ctcagtagga gccaacctg ctgacacctt gatctcagac  
360  
ttcaagcctc cagaactgtg ggacaatcct tcaactgtcat ttaatccacc cagcatgtgg  
420  
tctcttgta cagttgcatt agccagtga cctaccggg cccttctgca gtcgcctggc  
480  
tcaggagtgg ttctggtcag gaagttctga ggccaggcag gatcgggaca ctccctggaa  
540  
agacccgagg gagatatttg ggaaacaaga tgg  
573

<210> 4316  
 <211> 169  
 <212> PRT  
 <213> Homo sapiens

<400> 4316  
 Xaa Leu Ile Gln Tyr Asp Trp Cys Pro Tyr Lys Lys Arg Lys Leu Gly  
 1 5 10 15  
 His Arg Gln Ala Gln Ser Asp Asp His Val Lys Thr Gln Gly Arg Asp  
 20 25 30  
 Gly His Leu Pro Pro Arg His Gly His Leu Pro Ser Lys Pro Trp Ser  
 35 40 45  
 Pro Ser Pro Ser His Ser His Leu Pro Ser Lys Pro Pro Ser Pro Thr  
 50 55 60  
 Ile Gln Ala Met Ala Thr Tyr Leu Pro Ser His Gly His Leu Pro Ala  
 65 70 75 80  
 Lys Pro Trp Ser Pro Thr His Gln Val Met Val Ala Tyr His Pro Arg  
 85 90 95  
 Ser Arg Pro Gly Thr Asp Pro Ser Pro Glu Pro Ser Val Gly Ala Asn  
 100 105 110  
 Pro Ala Asp Thr Leu Ile Ser Asp Phe Lys Pro Pro Glu Leu Trp Asp  
 115 120 125  
 Asn Pro Ser Leu Ser Phe Asn Pro Pro Ser Met Trp Ser Leu Val Thr  
 130 135 140  
 Val Ala Leu Ala Ser Glu Pro Thr Arg Ala Leu Leu Gln Ser Pro Gly  
 145 150 155 160  
 Ser Gly Val Val Leu Val Arg Lys Phe  
 165

<210> 4317  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 4317  
 nntgaagaga agtcaaaaaa ctcacgacct gtcagagatt tgggggtccat ttcaggatca  
 60  
 tcccatgccg aaaacataact ccagatatatt aatgaatttc gtgatagccg cttattcaca  
 120  
 gatgttatca tttgggtgga aggaaaagaa tttccttgcc atagagctgt gctctcagcc  
 180  
 tgtagcagct acttcagagc tatgttttgt aatgaccaca gggaaagccg agaaatgttg  
 240  
 gttgagatca atggtatttt agctgaagct atggaatgtt ttttgcagta tgtttataact  
 300  
 ggaaaggtga agatcactac agagaatgta cagtatctct ttgagacatc aagcctcttt  
 360  
 cagattagtg ttctccgtga tgcacgtgcc aagttcttgg aggagcaact tgatccttgt  
 420  
 aattgcttag gaatccagcg ctttgctgat acccattcac tcaaaacact cttcacaaaa  
 480  
 tgcaaaaatt ttgcgttaca gacttttgag gatgtatccc agcacgaaga atttcttgag  
 540

cttgacaaaag atgaacttat tgattatatt tgtagtgatg aacttggttat tggtaaagag  
 600  
 gagatggttt ttgaagccgt catgcgttgg gtctatcgtg ccgttgatct gagaagacca  
 660  
 ctggttacacg agctcctgac acatgtgaga ctccctctgt tgcaccccaa ctactttggtt  
 720  
 caaacagttg aagtggacca attg  
 744

<210> 4318  
 <211> 239  
 <212> PRT  
 <213> Homo sapiens

<400> 4318  
 Pro Val Arg Asp Leu Gly Ser Ile Ser Gly Ser Ser His Ala Glu Asn  
 1 5 10 15  
 Ile Leu Gln Ile Phe Asn Glu Phe Arg Asp Ser Arg Leu Phe Thr Asp  
 20 25 30  
 Val Ile Ile Trp Val Glu Gly Lys Glu Phe Pro Cys His Arg Ala Val  
 35 40 45  
 Leu Ser Ala Cys Ser Ser Tyr Phe Arg Ala Met Phe Cys Asn Asp His  
 50 55 60  
 Arg Glu Ser Arg Glu Met Leu Val Glu Ile Asn Gly Ile Leu Ala Glu  
 65 70 75 80  
 Ala Met Glu Cys Phe Leu Gln Tyr Val Tyr Thr Gly Lys Val Lys Ile  
 85 90 95  
 Thr Thr Glu Asn Val Gln Tyr Leu Phe Glu Thr Ser Ser Leu Phe Gln  
 100 105 110  
 Ile Ser Val Leu Arg Asp Ala Cys Ala Lys Phe Leu Glu Glu Gln Leu  
 115 120 125  
 Asp Pro Cys Asn Cys Leu Gly Ile Gln Arg Phe Ala Asp Thr His Ser  
 130 135 140  
 Leu Lys Thr Leu Phe Thr Lys Cys Lys Asn Phe Ala Leu Gln Thr Phe  
 145 150 155 160  
 Glu Asp Val Ser Gln His Glu Glu Phe Leu Glu Leu Asp Lys Asp Glu  
 165 170 175  
 Leu Ile Asp Tyr Ile Cys Ser Asp Glu Leu Val Ile Gly Lys Glu Glu  
 180 185 190  
 Met Val Phe Glu Ala Val Met Arg Trp Val Tyr Arg Ala Val Asp Leu  
 195 200 205  
 Arg Arg Pro Leu Leu His Glu Leu Leu Thr His Val Arg Leu Pro Leu  
 210 215 220  
 Leu His Pro Asn Tyr Phe Val Gln Thr Val Glu Val Asp Gln Leu  
 225 230 235

<210> 4319  
 <211> 388  
 <212> DNA  
 <213> Homo sapiens

<400> 4319  
 nccatggaga aaagtattga tgctgtgatt gcaactgcct ctgcaccacc ttcttccagt  
 60

ccaggccgta gccacagcaa ggaccgaacc ctgggaaaac cagacagcct tttagtgcct  
 120  
 gcagtgcgcaa gtgactcttg caataatagc atctcactcc tatctgaaaa gttgacaagc  
 180  
 agctgttccc cccatcatat caagagaagt gtagtggaag ctatgcaacg ccaagctcgg  
 240  
 aaaatgtgca attacgacaa aatcttgagg acaaagaaaa acctagacca tgtcaataaa  
 300  
 atcttaaaaag ccaaaaaaact tcaaaggcag gccaggacag ggaataactt tgtgaaacgt  
 360  
 aggccagggtc gaccgcgggtc ggagagag  
 388

<210> 4320

<211> 129

<212> PRT

<213> Homo sapiens

<400> 4320

Xaa	Met	Glu	Lys	Ser	Ile	Asp	Ala	Val	Ile	Ala	Thr	Ala	Ser	Ala	Pro
1				5					10					15	
Pro	Ser	Ser	Ser	Pro	Gly	Arg	Ser	His	Ser	Lys	Asp	Arg	Thr	Leu	Gly
		20						25					30		
Lys	Pro	Asp	Ser	Leu	Leu	Val	Pro	Ala	Val	Ala	Ser	Asp	Ser	Cys	Asn
		35					40					45			
Asn	Ser	Ile	Ser	Leu	Leu	Ser	Glu	Lys	Leu	Thr	Ser	Ser	Cys	Ser	Pro
	50					55				60					
His	His	Ile	Lys	Arg	Ser	Val	Val	Glu	Ala	Met	Gln	Arg	Gln	Ala	Arg
65				70					75					80	
Lys	Met	Cys	Asn	Tyr	Asp	Lys	Ile	Leu	Ala	Thr	Lys	Lys	Asn	Leu	Asp
			85					90					95		
His	Val	Asn	Lys	Ile	Leu	Lys	Ala	Lys	Lys	Leu	Gln	Arg	Gln	Ala	Arg
		100					105						110		
Thr	Gly	Asn	Asn	Phe	Val	Lys	Arg	Arg	Pro	Gly	Arg	Pro	Arg	Ser	Glu
		115					120						125		

Arg

<210> 4321

<211> 278

<212> DNA

<213> Homo sapiens

<400> 4321

ngcccagaaac ctgccacagt cccctgagaa caccgacctg cagggttattc caggcagcca  
 60  
 gaccaggctc cttggtgaga agaccaccac agcggcaggg tccagccaca gcaggcccgg  
 120  
 cgtccccggtg gaaggcagcc ctgggcccga cccaggcggt taacggctca ctaggcagcc  
 180  
 ccagatctgg ggaacagatg agcacgtggg gagctggagt gagctgagca gaagttttgt  
 240  
 gcccgccctgc ccccatcccc tccagggcac gttttaga  
 278

<210> 4322  
 <211> 85  
 <212> PRT  
 <213> Homo sapiens

<400> 4322  
 Met Gly Ala Gly Gly His Lys Thr Ser Ala Gln Leu Thr Pro Ala Pro  
 1 5 10 15  
 His Val Leu Ile Cys Ser Pro Asp Leu Gly Leu Pro Ser Glu Pro Leu  
 20 25 30  
 Asn Ala Trp Val Pro Pro Arg Ala Ala Phe His Arg Asp Ala Gly Pro  
 35 40 45  
 Ala Val Ala Gly Pro Cys Arg Cys Gly Gly Leu Leu Thr Lys Glu Pro  
 50 55 60  
 Gly Leu Ala Ala Trp Asn Asn Leu Gln Val Gly Val Leu Arg Gly Leu  
 65 70 75 80  
 Trp Gln Val Leu Gly  
 85

<210> 4323  
 <211> 1542  
 <212> DNA  
 <213> Homo sapiens

<400> 4323  
 ngttacagta aagatggagc aaagtccttg aaaggagatg tgccctgcctc tgagggtgaca  
 60  
 ctgaaagact cgacattcag ccagtttagc ccgatctcca gtgctgaaga gtttgatgac  
 120  
 gacgagaaga ttgaggtgga tgacccccct gacaaggagg acatgcatc aagcttcagg  
 180  
 tcgaatgtgt tgacgggggtc ggctccccag caggactacg ataagctgaa ggcactcgga  
 240  
 ggggaaaact ccagcaaaac tggactctct acgtcaggca atgtggagaa aaacaaagct  
 300  
 gttaagagag aaacagaagc cagttctata aacctgagt tttatgaacc ttttaaagtc  
 360  
 agaaaagcag aggataaatt gaaggaaagc tctgacaagg tgctggaaaa cagagtccta  
 420  
 gatgggaagc tgagctccga gaagaatgac accagcctcc ccagcgttgc gccatcaaag  
 480  
 acaaagtcgt cctccaagct ctcgtcctgc atcgctgcca tcgcggtctc cagcgctaaa  
 540  
 aaggcggctt cagactcctg caaagaacca gtggccaatt cgagggaatc ctccccgtta  
 600  
 ccaaaagaag taaatgacag tccgagagcc gctgacaagt ctctgaatc ccagaatctc  
 660  
 atcgacggga ccaaaaaacc atccctgaag caaccggata gtcccagaag catctcaagt  
 720  
 gagaacagca gcaaaggatc cccgtcctct cccgcgggggt ccacaccagc aatccccaaa  
 780  
 gtccgcataa aaaccattaa gacatcttct ggggaaatca agagaacagt gaccagggta  
 840



ttgccagaag tggatcttga ctctggaaaag aaaccttccg agcagacagc gtccgtcatg  
 900  
 gcctctgtga catcccttct gtcgtctcca gcatcagccg ccgtcctttc ctctcccccc  
 960  
 agggcgcttc tccagtctgc ggtcgtgacc aatgcagttt cccctgcaga gctcaccccc  
 1020  
 aaacaggtca caatcaagcc tgtggctact gctttcctcc cagtgtctgc tgtgaagacg  
 1080  
 gcaggatccc aagtcattaa tttgaagctc gctaacaaca ccacggtgaa agccacggtc  
 1140  
 atatctgtg cctctgtcca gagtgccagc agcgccatca ttaaagctgc caacgccatc  
 1200  
 cagcagcaaa ctgtcgtggt gccggcatcc agcctggcca atgccaaact cgtgccaaag  
 1260  
 actgtgcacc ttgccaaact taaccttttg cctcaggggtg cccaggccac ctctgaactc  
 1320  
 cgccaagtgc taaccaaacc tcagcaacaa ataaagcagg caataatcaa tgcagcagcc  
 1380  
 tcgcaacccc caaaaaaggt gtctcgagtc caggtggtgt cgtccttgca gagttctgtg  
 1440  
 gtggaagctt tcaacaaggt gctgagcagt gtcaatccag tcctgttta catcccaaac  
 1500  
 ctcagtcctc ccgccaatgc agggatcacg ttaccgacgc gt  
 1542

&lt;210&gt; 4324

&lt;211&gt; 514

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4324

Xaa	Tyr	Ser	Lys	Asp	Gly	Ala	Lys	Ser	Leu	Lys	Gly	Asp	Val	Pro	Ala
1				5					10					15	
Ser	Glu	Val	Thr	Leu	Lys	Asp	Ser	Thr	Phe	Ser	Gln	Phe	Ser	Pro	Ile
			20					25					30		
Ser	Ser	Ala	Glu	Glu	Phe	Asp	Asp	Asp	Glu	Lys	Ile	Glu	Val	Asp	Asp
		35				40						45			
Pro	Pro	Asp	Lys	Glu	Asp	Met	Arg	Ser	Ser	Phe	Arg	Ser	Asn	Val	Leu
	50					55					60				
Thr	Gly	Ser	Ala	Pro	Gln	Gln	Asp	Tyr	Asp	Lys	Leu	Lys	Ala	Leu	Gly
65					70					75					80
Gly	Glu	Asn	Ser	Ser	Lys	Thr	Gly	Leu	Ser	Thr	Ser	Gly	Asn	Val	Glu
			85						90					95	
Lys	Asn	Lys	Ala	Val	Lys	Arg	Glu	Thr	Glu	Ala	Ser	Ser	Ile	Asn	Leu
			100					105					110		
Ser	Val	Tyr	Glu	Pro	Phe	Lys	Val	Arg	Lys	Ala	Glu	Asp	Lys	Leu	Lys
		115				120						125			
Glu	Ser	Ser	Asp	Lys	Val	Leu	Glu	Asn	Arg	Val	Leu	Asp	Gly	Lys	Leu
	130					135					140				
Ser	Ser	Glu	Lys	Asn	Asp	Thr	Ser	Leu	Pro	Ser	Val	Ala	Pro	Ser	Lys
145					150					155					160
Thr	Lys	Ser	Ser	Ser	Lys	Leu	Ser	Ser	Cys	Ile	Ala	Ala	Ile	Ala	Ala
				165					170					175	
Leu	Ser	Ala	Lys	Lys	Ala	Ala	Ser	Asp	Ser	Cys	Lys	Glu	Pro	Val	Ala

```

      180      185      190
Asn Ser Arg Glu Ser Ser Pro Leu Pro Lys Glu Val Asn Asp Ser Pro
      195      200      205
Arg Ala Ala Asp Lys Ser Pro Glu Ser Gln Asn Leu Ile Asp Gly Thr
      210      215      220
Lys Lys Pro Ser Leu Lys Gln Pro Asp Ser Pro Arg Ser Ile Ser Ser
      225      230      235      240
Glu Asn Ser Ser Lys Gly Ser Pro Ser Ser Pro Ala Gly Ser Thr Pro
      245      250      255
Ala Ile Pro Lys Val Arg Ile Lys Thr Ile Lys Thr Ser Ser Gly Glu
      260      265      270
Ile Lys Arg Thr Val Thr Arg Val Leu Pro Glu Val Asp Leu Asp Ser
      275      280      285
Gly Lys Lys Pro Ser Glu Gln Thr Ala Ser Val Met Ala Ser Val Thr
      290      295      300
Ser Leu Leu Ser Ser Pro Ala Ser Ala Ala Val Leu Ser Ser Pro Pro
      305      310      315      320
Arg Ala Pro Leu Gln Ser Ala Val Val Thr Asn Ala Val Ser Pro Ala
      325      330      335
Glu Leu Thr Pro Lys Gln Val Thr Ile Lys Pro Val Ala Thr Ala Phe
      340      345      350
Leu Pro Val Ser Ala Val Lys Thr Ala Gly Ser Gln Val Ile Asn Leu
      355      360      365
Lys Leu Ala Asn Asn Thr Thr Val Lys Ala Thr Val Ile Ser Ala Ala
      370      375      380
Ser Val Gln Ser Ala Ser Ser Ala Ile Ile Lys Ala Ala Asn Ala Ile
      385      390      395      400
Gln Gln Gln Thr Val Val Val Pro Ala Ser Ser Leu Ala Asn Ala Lys
      405      410      415
Leu Val Pro Lys Thr Val His Leu Ala Asn Leu Asn Leu Leu Pro Gln
      420      425      430
Gly Ala Gln Ala Thr Ser Glu Leu Arg Gln Val Leu Thr Lys Pro Gln
      435      440      445
Gln Gln Ile Lys Gln Ala Ile Ile Asn Ala Ala Ala Ser Gln Pro Pro
      450      455      460
Lys Lys Val Ser Arg Val Gln Val Val Ser Ser Leu Gln Ser Ser Val
      465      470      475      480
Val Glu Ala Phe Asn Lys Val Leu Ser Ser Val Asn Pro Val Pro Val
      485      490      495
Tyr Ile Pro Asn Leu Ser Pro Pro Ala Asn Ala Gly Ile Thr Leu Pro
      500      505      510
Thr Arg

```

<210> 4325  
 <211> 1405  
 <212> DNA  
 <213> Homo sapiens

<400> 4325  
 acgcgtgccc ggggtctgct gtgcagcgca gcccgttgtg gtgatacgag ccggagatgc  
 60  
 cttctgcagg gactgtttca aggccttcta cgccacaag ttcataagcca tgctgggcaa  
 120

gaaccggctc atctttccag gcgagaaggt agcgtctggg tcctgggggt ctgactgagc  
 180  
 agcctggccc ctcgaggctc ctgcttgctc ctcccacagg cagcctggcc tgctgcagcc  
 240  
 cgccagctcc tccttggcct ttgaggacag actcgatgtc ctagatgtcc acgaggtggg  
 300  
 gtgtctgcct gtgttgaggg tgcgggtgcc tgagtgatgt tttttctccc ccaggtgctc  
 360  
 ttggcgtggg ctggggggcc ttcgtccagc tccatggtct ggcaggttct tgagggcctg  
 420  
 agccaagatt ctgccaaaag actgcgcttt gtggcaggag tcattcttgt tgacgagggg  
 480  
 gcagcctgtg gccagagcct agaggagaga tcaaagaccc tggccgaagt gaagccatt  
 540  
 ctgcaagcaa ctgggttccc atggcatgtg gtggccttag aggaggtgtt cagcctgcc  
 600  
 ccgtcgggtg tttggtgctc tgcccaggag ctggtgggat ccgagggggc ctacaaggcg  
 660  
 gccgtggaca gcttcctcca gcagcagtat gtgctggggg ccgggggtgg tcctggcccg  
 720  
 actcaagggg aggaacagcc accccagccc ccgctggacc ccagaacct ggcaagaccg  
 780  
 cctgcccctg cccagactga ggctctttcc caactgttct gctcagttag gacactgact  
 840  
 gccaaaggagg agcttctgca gaccctgcgg acccacctga tcctccacat ggcccagacc  
 900  
 cacggctact ccaaggtcat gactggggac agctgcacac gcttggctat caagctcatg  
 960  
 accaacctgg cgctgggtcg aggggccttc ctggcctggg atacgggctt ctcggtatgag  
 1020  
 cggcacgggg acgtgggtgt ggtgcggccc atgcgggacc acaccctgaa ggaggtcgct  
 1080  
 ttctacaacc gcctgttctc cgttccttct gtcttcacac cagccgtcga caccaaggcc  
 1140  
 cctgaaaagg ccagcatcca ccggctgatg gaggccttca tcctcaggct gcagaccag  
 1200  
 tccccctcca ctgtcagcac tgtgtacagg tgtgtgtggg tgtgtgcggg ggggtgcgcg  
 1260  
 gtgtgtgctg tgtgcgggtg tgtgcgggtg gtgagctcac cactcgtgct caggccaggg  
 1320  
 cttagggtgg agccccagcc cgtgtgattc acctgctcct ccacaaatcc ggccacagga  
 1380  
 caagtgagaa gcttgtgaag ggccc  
 1405

&lt;210&gt; 4326

&lt;211&gt; 336

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4326

Met Phe Phe Leu Pro Gln Val Leu Leu Ala Trp Ser Gly Gly Pro Ser  
 1 5 10 15  
 Ser Ser Ser Met Val Trp Gln Val Leu Glu Gly Leu Ser Gln Asp Ser

```

      20      25      30
Ala Lys Arg Leu Arg Phe Val Ala Gly Val Ile Phe Val Asp Glu Gly
      35      40      45
Ala Ala Cys Gly Gln Ser Leu Glu Glu Arg Ser Lys Thr Leu Ala Glu
      50      55      60
Val Lys Pro Ile Leu Gln Ala Thr Gly Phe Pro Trp His Val Val Ala
      65      70      75      80
Leu Glu Glu Val Phe Ser Leu Pro Pro Ser Val Leu Trp Cys Ser Ala
      85      90      95
Gln Glu Leu Val Gly Ser Glu Gly Ala Tyr Lys Ala Ala Val Asp Ser
      100      105      110
Phe Leu Gln Gln Gln Tyr Val Leu Gly Ala Gly Gly Gly Pro Gly Pro
      115      120      125
Thr Gln Gly Glu Glu Gln Pro Gln Pro Pro Leu Asp Pro Gln Asn
      130      135      140
Leu Ala Arg Pro Pro Ala Pro Ala Gln Thr Glu Ala Leu Ser Gln Leu
      145      150      155      160
Phe Cys Ser Val Arg Thr Leu Thr Ala Lys Glu Glu Leu Leu Gln Thr
      165      170      175
Leu Arg Thr His Leu Ile Leu His Met Ala Arg Ala His Gly Tyr Ser
      180      185      190
Lys Val Met Thr Gly Asp Ser Cys Thr Arg Leu Ala Ile Lys Leu Met
      195      200      205
Thr Asn Leu Ala Leu Gly Arg Gly Ala Phe Leu Ala Trp Asp Thr Gly
      210      215      220
Phe Ser Asp Glu Arg His Gly Asp Val Val Val Val Arg Pro Met Arg
      225      230      235      240
Asp His Thr Leu Lys Glu Val Ala Phe Tyr Asn Arg Leu Phe Ser Val
      245      250      255
Pro Ser Val Phe Thr Pro Ala Val Asp Thr Lys Ala Pro Glu Lys Ala
      260      265      270
Ser Ile His Arg Leu Met Glu Ala Phe Ile Leu Arg Leu Gln Thr Gln
      275      280      285
Phe Pro Ser Thr Val Ser Thr Val Tyr Arg Cys Val Trp Val Cys Ala
      290      295      300
Gly Gly Ala Arg Val Cys Ala Val Cys Gly Cys Val Arg Val Val Ser
      305      310      315      320
Ser Pro Leu Val Leu Arg Pro Gly Leu Arg Val Glu Pro Gln Pro Val
      325      330      335

```

&lt;210&gt; 4327

&lt;211&gt; 551

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4327

```

tggccacagg cagagccgcc tctgcagggtg acacccaccc caggccgtgc accccacctc
60
caccctcgca ggccacccag acggcagctt ggggaaacct gggaggtccc gtaccctcac
120
tgtgcagggtg gggaaattta gaccctgaaa aagggatgcc ctgagatcac catgagattg
180
aggggcaagc agggctcacc ctgactgggt cacttcccag gcaccccat gagcccaggc
240

```

accgcctgcc accctcactc tccaggaaga gccaccgcgt ggtggccggg atcgtgtggt  
 300  
 ggccagggcg tctgaccttg gctctcaccg ggaggccatc caggtgctga ggatggctaa  
 360  
 cgctaaggcc acacagccag ggagaggagg tggctcgtga caccacgatg ggacacaccc  
 420  
 acctctggga gaggagggtg actccgacag cccttgccctg ccaggatgga gcctggactc  
 480  
 tggagggcat cgtgtccttg agcagcacca gcacctcctg ttgtcaccag gcgtggatgc  
 540  
 ccgcatcatg a  
 551

<210> 4328  
 <211> 107  
 <212> PRT  
 <213> Homo sapiens

<400> 4328  
 Met Pro Ser Arg Val Gln Ala Pro Ser Trp Gln Ala Arg Ala Val Gly  
 1 5 10 15  
 Val Thr Leu Leu Ser Gln Arg Trp Val Cys Pro Ile Val Val Ser Arg  
 20 25 30  
 Ala Thr Ser Ser Pro Trp Leu Cys Gly Leu Ser Val Ser His Pro Gln  
 35 40 45  
 His Leu Asp Gly Leu Arg Val Arg Ala Lys Val Arg Arg Pro Gly His  
 50 55 60  
 His Thr Ile Pro Ala Thr Thr Arg Trp Leu Phe Leu Glu Ser Glu Gly  
 65 70 75 80  
 Gly Arg Arg Cys Leu Gly Ser Trp Gly Cys Leu Gly Ser Glu Pro Val  
 85 90 95  
 Arg Val Ser Pro Ala Cys Pro Ser Ile Ser Trp  
 100 105

<210> 4329  
 <211> 3192  
 <212> DNA  
 <213> Homo sapiens

<400> 4329  
 cttaagactt tcaaagccca ataaaaatat atccaggagg gccagctaca atgagcccaa  
 60  
 gccagaggtc acctacatca gccagaaaat ctatgacctc tcagacagca agatttatct  
 120  
 tgtacctaaa actttggctc gaaagcgaat ctggaataaa aagtacccca tttgtatcga  
 180  
 gcttgggtcag caagatgact ttatgtctaa agctcagact gataaggaga cttcagaaga  
 240  
 gaagccgcca gctggaggaa gggaggaccc ttagaagcca ccccgccctc aggaggaaca  
 300  
 agatctagcc agcgagatca gatactctat ctctttggga gaactggccg agaaaaagag  
 360  
 gaatggttta ggagatttat tctggcatct aagctaaagt cggaaatcaa gaagtcacg  
 420

ggtgtctctg gaggtaaacc agggcttttg cctgcacaca gcagacacaa cagtccgtcc  
480  
gggcacctga cccacagccg cagcagcagc aaaggcagtg tggaggagat catgtcacag  
540  
ccaaagcaga aggagctggc aggcagcgtg cggcagaaga tgcttctcga ctacagcgtg  
600  
tacatgggca ggtgtgtccc ccaggaaagc cgaagccccc agaggagccc cctgcagagt  
660  
gcggagagca gccccacagc tgggaagaag ttgccagagg ttccaccctc tgaggaggaa  
720  
gaacaggaag cctgggtgaa tgccttgctt ggaagaatat tttgggactt cttaggagag  
780  
aaatactggg ctgatctggg gtctaagaag atccaaatga aactcagcaa aataaagctc  
840  
ccctacttta tgaatgagct cactctgacg gaacttgaca tgggcgtggc tgtgccaaaa  
900  
atcctccagg ccttcaagcc ttacgttgat caccaaggac tctggattga tttggaaatg  
960  
tcctacaatg ggtcctttct gatgactctc gagacaaaaa tgaatttgcc taaactaggt  
1020  
aaagagcctc ttgttgaagc cctgaagggt ggagaaattg gcaaagaagg ttgcaggccc  
1080  
cgggcattct gtctggcgga cagcgatgag gaatcctcca gcgctggctc ctccgaggaa  
1140  
gacgatgccc cagagcccgc gggggagaca aacagctcct cccaggggga aggggtacgtt  
1200  
ggaggtcatc gaacaagtaa gattatgagg tttgttgata aaattaccaa gtcaaaatat  
1260  
ttccaaaaag caacagagac agagtttata aaaaganaga tcgaagaagt ctccaacaca  
1320  
cccctgctgc tcaactgtga agtacaagaa tgtagaggaa ccttggcggt caacattcca  
1380  
ccacccccga ctgaccgagt atggtatggg ttccgaaagc caccacatgt ggagctgaaa  
1440  
gctcggccaa aacttggaga gagagaagtg actttagtgc atgtgacaga ctggatagag  
1500  
aagaaactgg agcaagagtt tcagaaagtt tttgtcatgc caaacatgga tgatgtttat  
1560  
atcactataa tgcactcagc catggaccct cgctctactt cctgcctcct gaaagaccca  
1620  
cctgtggagg ctgctgatcg gccatgatgg gtgatgtcag atgttcccca tattgtgaca  
1680  
tcgagctgga tgtgtggggg tcttggccgc catctgtact gtagcactgg cctctgtgcc  
1740  
acagctactg tttcttaaag gactgcttct gccctctgcc tgccagtgcc cattccactg  
1800  
tgaggtgtca ttccctgcat ctagtgacaa ctgtctggat tgcttctgc aaagctttga  
1860  
tttggcaaag gagaccatgg aagaatcatg gtggatccag aagttatacg tgaccacac  
1920  
catggctttt aaaagtctac ccatgtttgt ggcagcaaag gagcacagta agagcaaagc  
1980  
tgaacaactt gcctcctcta ctctccaaa gcttttcttc aggcagccgg tgcacagtgg  
2040

actttttcac ttctatactt tgtatgcggc cttccacact tccagagaat gtcagtgtgc  
 2100  
 aatgtgtctg gaggggtgggg agaggaattc tgtgagcctt ttcatttcgg tgacagaaga  
 2160  
 gatgggcaga gcaacttatt ttccacatta aattgtgcat ttgggaagca agtagccata  
 2220  
 gtacacacac aacacgctat cagcttgggt aaggacagtg ggatttatgt gaacatcagg  
 2280  
 caaagccatg agatcaaacc atcccaagcc tttaccaat gaggtacaac cacctggggg  
 2340  
 ctagctaatac ttgaatgttt tcctgagaca ggagcgtatg tgaaaacatc aaacactgca  
 2400  
 catgacagga tgggtcctct catacagatg ggatgggggt agaaagccag agccagtttt  
 2460  
 tccatctggc gtttcctgtg tcctccaggt ttatatggga atcgaaacag tttgttaac  
 2520  
 tgattgggag agttccatgg gcagatttcc cttcctgaag gccaaaacgg agaactgctc  
 2580  
 tctttaatta tttcaagagt caagacaaa agtttgctca gcatcacact acatctcaaa  
 2640  
 attaagtgtg ccaacttaat tttgtgcatt tgtgtcagaa tgtttagttt acaagggttg  
 2700  
 gggctctctt tgcttcgaga agtaaacctt ataccatttt tttattgttt aaagctgcat  
 2760  
 tcaacgtcaa aattaccttg ggtaactttt gataacttac atgtgtggac aaagctaata  
 2820  
 gtgggttttt aaacagcacc ttgcctgaac atgactttaa agaaattaat atattgaaaa  
 2880  
 catgtttgaa cccttatttt aattgcacca ttaaaacatt tgacttaaata tgtttgacca  
 2940  
 ttccagttgg tgtactgttc tgatttttcg ttgtgtaggc cgatctgcct gtcagagtcc  
 3000  
 acgtgtcctg gtcactggtc tttataattg ttgtgcaata actaaaggct aaggactaga  
 3060  
 tgcactatcg tgtaaagaga ttacacatga ctgtaccatg ttgcacttaa tcaaatagta  
 3120  
 tgtggggatt taaaatcgct tgcattgttt cacaaaataa atatctcaat gtcaaatact  
 3180  
 aaaaaaaaaa aa  
 3192

&lt;210&gt; 4330

&lt;211&gt; 371

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4330

Met	Ser	Gln	Pro	Lys	Gln	Lys	Glu	Leu	Ala	Gly	Ser	Val	Arg	Gln	Lys
1				5					10					15	
Met	Leu	Leu	Asp	Tyr	Ser	Val	Tyr	Met	Gly	Arg	Cys	Val	Pro	Gln	Glu
			20					25					30		
Ser	Arg	Ser	Pro	Gln	Arg	Ser	Pro	Leu	Gln	Ser	Ala	Glu	Ser	Ser	Pro
		35					40					45			
Thr	Ala	Gly	Lys	Lys	Leu	Pro	Glu	Val	Pro	Pro	Ser	Glu	Glu	Glu	Glu

```

      50              55              60
Gln Glu Ala Trp Val Asn Ala Leu Leu Gly Arg Ile Phe Trp Asp Phe
65              70              75              80
Leu Gly Glu Lys Tyr Trp Ser Asp Leu Val Ser Lys Lys Ile Gln Met
      85              90
Lys Leu Ser Lys Ile Lys Leu Pro Tyr Phe Met Asn Glu Leu Thr Leu
      100              105              110
Thr Glu Leu Asp Met Gly Val Ala Val Pro Lys Ile Leu Gln Ala Phe
      115              120              125
Lys Pro Tyr Val Asp His Gln Gly Leu Trp Ile Asp Leu Glu Met Ser
      130              135              140
Tyr Asn Gly Ser Phe Leu Met Thr Leu Glu Thr Lys Met Asn Leu Pro
145              150              155              160
Lys Leu Gly Lys Glu Pro Leu Val Glu Ala Leu Lys Val Gly Glu Ile
      165              170              175
Gly Lys Glu Gly Cys Arg Pro Arg Ala Phe Cys Leu Ala Asp Ser Asp
      180              185              190
Glu Glu Ser Ser Ser Ala Gly Ser Ser Glu Glu Asp Asp Ala Pro Glu
      195              200              205
Pro Ala Gly Glu Thr Asn Ser Ser Ser Gln Gly Glu Gly Tyr Val Gly
      210              215              220
Gly His Arg Thr Ser Lys Ile Met Arg Phe Val Asp Lys Ile Thr Lys
225              230              235              240
Ser Lys Tyr Phe Gln Lys Ala Thr Glu Thr Glu Phe Ile Lys Arg Xaa
      245              250              255
Ile Glu Glu Val Ser Asn Thr Pro Leu Leu Leu Thr Val Glu Val Gln
      260              265              270
Glu Cys Arg Gly Thr Leu Ala Val Asn Ile Pro Pro Pro Pro Thr Asp
      275              280              285
Arg Val Trp Tyr Gly Phe Arg Lys Pro Pro His Val Glu Leu Lys Ala
      290              295              300
Arg Pro Lys Leu Gly Glu Arg Glu Val Thr Leu Val His Val Thr Asp
305              310              315              320
Trp Ile Glu Lys Lys Leu Glu Gln Glu Phe Gln Lys Val Phe Val Met
      325              330              335
Pro Asn Met Asp Asp Val Tyr Ile Thr Ile Met His Ser Ala Met Asp
      340              345              350
Pro Arg Ser Thr Ser Cys Leu Leu Lys Asp Pro Pro Val Glu Ala Ala
      355              360              365
Asp Arg Pro
      370

```

&lt;210&gt; 4331

&lt;211&gt; 1355

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4331

```

gaaaaatatt ttaaccataa ggctcttcag cttcttcact gtttccctct ggacatacga
60
ttaaagatg gcagtttatt ttggcagtc ccaaagaggc caccctctcc aataaaattt
120
gatttaaagt agcctttgca cctcagtttc cttcagaatg ctgcaaaact atatgctaca
180

```



gtatattgta ttccatttgc agaagaggac ttatcagcag atgccctctt gaatattctt  
 240  
 tcagaagtaa agattcagga attcaagcct tccaataagg ttgttcaaac agatgaaact  
 300  
 gcaaggaaac cagaccatgt tcctatttagc agtgaagatg agaggaatgc aattttccaa  
 360  
 ctagaaaagg ctattttatc taatgaagcc accaaaagtg accttcagat ggcagtgcct  
 420  
 tcatttgaaa aagatgatga tcataatgga cacatagatt tcatcacagc tgcacaaat  
 480  
 ctctgtgcca aaatgtacag cattgaacca gctgaccgtt tcaaaacaaa gcgcatagct  
 540  
 ggtaaaatta tacctgctat agcaacaacc actgctacag tttctggctt ggttgccctg  
 600  
 gagatgatca aagtaactgg tggctatcca tttgaagctt acaaaaattg ttttcttaac  
 660  
 ttagccattc caattgtagt atttacagag acaactgaag taaggaaaac taaaatcaga  
 720  
 aatggaatat catttacaat ttgggatcga tggaccgtac atggaaaaga agatttcacc  
 780  
 ctcttggatt tcataaatgc agtcaaagag aagtatggaa ttgagccaac aatggtggta  
 840  
 caggagtgca aaatgcttta tgttctgtga atgcctgggc atgcaaaaag attgaagtta  
 900  
 acaatgcata aacttgtaaa acctactact gaaaagaaat atgtggatct tactgtgtca  
 960  
 tttgctccag acattgatgg agatgaagat ttgccgggac ctccagtaag atactacttc  
 1020  
 agtcatgaca ctgattaata caagttgtct taacgttact ccaggaccac ttgattttgg  
 1080  
 aaagagtgc cttaattcag aagctaaaga aaatcagttc ataatactat ggatttctct  
 1140  
 ttcattaagc cttaatttta agggaaacat cagtaagaaa ctgcactgaa gaattataaa  
 1200  
 acattttggg gcatagcata cacttgtcta acggttcaca cgtggctatg atcacaagca  
 1260  
 actttgaact ggaatgctat ttataaaagt tttgtgtatt aatctgtgta ttaatctctc  
 1320  
 tggataaaaa gaaggaaaaa atatgtatga ccggt  
 1355

&lt;210&gt; 4332

&lt;211&gt; 345

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4332

Glu	Lys	Tyr	Phe	Asn	His	Lys	Ala	Leu	Gln	Leu	Leu	His	Cys	Phe	Pro
1				5				10						15	
Leu	Asp	Ile	Arg	Leu	Lys	Asp	Gly	Ser	Leu	Phe	Trp	Gln	Ser	Pro	Lys
			20					25					30		
Arg	Pro	Pro	Ser	Pro	Ile	Lys	Phe	Asp	Leu	Asn	Glu	Pro	Leu	His	Leu
		35					40					45			
Ser	Phe	Leu	Gln	Asn	Ala	Ala	Lys	Leu	Tyr	Ala	Thr	Val	Tyr	Cys	Ile

```

      50      55      60
Pro Phe Ala Glu Glu Asp Leu Ser Ala Asp Ala Leu Leu Asn Ile Leu
65      70      75      80
Ser Glu Val Lys Ile Gln Glu Phe Lys Pro Ser Asn Lys Val Val Gln
      85      90      95
Thr Asp Glu Thr Ala Arg Lys Pro Asp His Val Pro Ile Ser Ser Glu
      100      105      110
Asp Glu Arg Asn Ala Ile Phe Gln Leu Glu Lys Ala Ile Leu Ser Asn
      115      120      125
Glu Ala Thr Lys Ser Asp Leu Gln Met Ala Val Leu Ser Phe Glu Lys
      130      135      140
Asp Asp Asp His Asn Gly His Ile Asp Phe Ile Thr Ala Ala Ser Asn
145      150      155      160
Leu Arg Ala Lys Met Tyr Ser Ile Glu Pro Ala Asp Arg Phe Lys Thr
      165      170      175
Lys Arg Ile Ala Gly Lys Ile Ile Pro Ala Ile Ala Thr Thr Thr Ala
      180      185      190
Thr Val Ser Gly Leu Val Ala Leu Glu Met Ile Lys Val Thr Gly Gly
      195      200      205
Tyr Pro Phe Glu Ala Tyr Lys Asn Cys Phe Leu Asn Leu Ala Ile Pro
      210      215      220
Ile Val Val Phe Thr Glu Thr Thr Glu Val Arg Lys Thr Lys Ile Arg
225      230      235      240
Asn Gly Ile Ser Phe Thr Ile Trp Asp Arg Trp Thr Val His Gly Lys
      245      250      255
Glu Asp Phe Thr Leu Leu Asp Phe Ile Asn Ala Val Lys Glu Lys Tyr
      260      265      270
Gly Ile Glu Pro Thr Met Val Val Gln Gly Val Lys Met Leu Tyr Val
      275      280      285
Pro Val Met Pro Gly His Ala Lys Arg Leu Lys Leu Thr Met His Lys
      290      295      300
Leu Val Lys Pro Thr Thr Glu Lys Lys Tyr Val Asp Leu Thr Val Ser
305      310      315      320
Phe Ala Pro Asp Ile Asp Gly Asp Glu Asp Leu Pro Gly Pro Pro Val
      325      330      335
Arg Tyr Tyr Phe Ser His Asp Thr Asp
      340      345

```

<210> 4333  
 <211> 1278  
 <212> DNA  
 <213> Homo sapiens

<400> 4333  
 cggccgcagc gccgtctgct cagcgcgccg gtcaatagga gccagtcctt cgcaggcgtc  
 60  
 ctcggcagcc acgagcgggg gcccaggagt ttcccgggtct tcagcccgcc ggggccccca  
 120  
 cggaagcccc ccgcgtcttc ccgagtgtcc aggatgtttt ccgtgggtca ccagccgcc  
 180  
 aaggtgccgc agcccgagcg gctggacctg gtgtacacgg cgctgaagcg gggcctgacg  
 240  
 gcctacttgg aagtgcacca gcaggagcaa gagaaactcc aggggcagat aaggaggtcc  
 300

aagaggaatt cccgcttggg cttcctgtat gatctggaca agcaagtcaa gtccattgaa  
360  
cgcttcctgc gacgactgga gttccatgcc agcaagatcg atgagctgta tgaggcatac  
420  
tgtgtccagc ggcgtctccg ggatgggtgcc tacaacatgg tccgtgccta caccactggg  
480  
tccccgggaa gccgagaggc ccgggacagc ctggcagagg ccactcgggg gcatcgcgag  
540  
tacacggagg taggggatgg gggcccatga agcagaggca cagggtgtgg cagggttagt  
600  
ggctggccct tgacccctc ctgtccctgc cctccctcc caagcatgtg tctgctggag  
660  
agcgagctgg aggcacagct gggcgagttt catctccgaa tgaaagggtt ggctggcttc  
720  
gccaggctgt gtgtaggcga tcagtatgag atctgcatga aatatgggctg tcagcgctgg  
780  
aaactacggg gccgaattga gggtagtgga aagcagggtg gggacagtga agaaaccatc  
840  
tttctccctc tactcacgga atttctgtct attaagggtg cagaactgaa gggcctggcc  
900  
aaccatgtgg ttgtgggcag tgtctcctgt gagaccaagg acctgtttgc cgcctgccc  
960  
caggttgtgg ctgtggatat caatgacctt ggtaccatca agctcagcct ggaagtcaca  
1020  
tgagcccct tcgacaagga tgaccagccc tcagctgctt cttctgtcaa caaggcctcc  
1080  
acagtcacca agcgcttctc cacctatagc cagagcccac cggacacacc ctacttcgg  
1140  
gaacaggctt tctataacat gctgcgacgg caggaggagc tggagaatgg gacagcatgg  
1200  
tccctgtcat ctgaatcttc agacgactca tccagcccac agctctcagg cactgcccgc  
1260  
cactcaccag cccctagg  
1278

&lt;210&gt; 4334

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4334

Arg	Pro	Gln	Arg	Arg	Leu	Leu	Ser	Ala	Arg	Val	Asn	Arg	Ser	Gln	Ser
1				5					10					15	
Phe	Ala	Gly	Val	Leu	Gly	Ser	His	Glu	Arg	Gly	Pro	Arg	Ser	Phe	Pro
			20					25					30		
Val	Phe	Ser	Pro	Pro	Gly	Pro	Pro	Arg	Lys	Pro	Pro	Ala	Leu	Ser	Arg
		35				40						45			
Val	Ser	Arg	Met	Phe	Ser	Val	Ala	His	Pro	Ala	Ala	Lys	Val	Pro	Gln
	50				55						60				
Pro	Glu	Arg	Leu	Asp	Leu	Val	Tyr	Thr	Ala	Leu	Lys	Arg	Gly	Leu	Thr
65				70					75					80	
Ala	Tyr	Leu	Glu	Val	His	Gln	Gln	Glu	Gln	Lys	Leu	Gln	Gly	Gln	
			85					90					95		
Ile	Arg	Glu	Ser	Lys	Arg	Asn	Ser	Arg	Leu	Gly	Phe	Leu	Tyr	Asp	Leu

```

<400> 4335
cacaacctgg acaagcgcag tgctcactag tgggagagga agggccaaga tctggctggg
60
gatggggagg agtggctccc ccacttaaa acatttgtgc cctctgtatc cccattccag
120
ctggccttgg gtgcggcact cgtgaatgta cagatcccc tgcctctggg ccagctggta
180
gaggtcgtgg ccaagtacac aagggaccac gtagggagtt tcatgactga gtctcagaat
240
ctcagcaccc acctgcttat cctctatggg gtccagggac tgctgacctt cgggtacctg
300
gtgctgctgt cccacgttgg cgagcgcatt gctgtggaca tgcggagggc cctcttcagc
360
tccctgctcc gacaagacat caccttcttt gacgccaata agacagggca gctggtgagc
420
cgcttgacaa ctgacgtgca ggagtttaag tcatccttca agcttgtcat ctcccagggg
480
ctgcgaagct gcaccaggt ggcaggctgc ctgggtgtccc tgtccatgct gtcgacacgc
540
ctcacgctgc tgctgatggg ggccacacca gccctgatgg gagtgggcac cctgatgggc
600
tcaggcctcc gaaaattgtc tcgccagtgt caggagcaga tcgccagggc aatgggcgta
660
gcagacgagg ccctgggcaa tgtgcggact gtgcgtgcct tcgccatgga gcaacgggaa
720
gaggagcgct atggggcaga gctggaagcc tgccgctgcc gggcagagga gctgggcccgc
780
ggcatcgctt tgttccaagg gctttccaac atcgccctca actgcatggg cttgggtacc
840
ctatttattg ggggctccct tgtggccgga cagcagctga cagggggaga cctcatgtcc
900
tccttggtgg cctcccagac agtgcaaagc ttccctccgtg ttgcacctg tccgaattcc
960
ttccgctgc aggtgtgac actccatgca tgggaaggacc atccttgaca ggctgtgtga
1020
ctgcaccttc cccatgctg ccacttccag ggatgacaag ctgacctctg tccccacaca
1080

```

ccccaccctt atagcttatt gctttgcgtt ggtccaaaac caccgctca gctgagcctc  
 1140  
 tgggatgacc agagctgac accagacagc tcaaggcggg cctcccccca gaggctggag  
 1200  
 tgtgctcgcg a  
 1211

<210> 4336

<211> 325

<212> PRT

<213> Homo sapiens

<400> 4336

Trp	Glu	Arg	Lys	Gly	Gln	Asp	Leu	Ala	Gly	Asp	Gly	Glu	Glu	Trp	Leu	1	5	10	15
Pro	Pro	Leu	Lys	Thr	Phe	Val	Pro	Ser	Val	Ser	Pro	Phe	Gln	Leu	Ala	20	25	30	
Leu	Gly	Ala	Ala	Leu	Val	Asn	Val	Gln	Ile	Pro	Leu	Leu	Leu	Gly	Gln	35	40	45	
Leu	Val	Glu	Val	Val	Ala	Lys	Tyr	Thr	Arg	Asp	His	Val	Gly	Ser	Phe	50	55	60	
Met	Thr	Glu	Ser	Gln	Asn	Leu	Ser	Thr	His	Leu	Ile	Leu	Tyr	Gly		65	70	75	80
Val	Gln	Gly	Leu	Leu	Thr	Phe	Gly	Tyr	Leu	Val	Leu	Leu	Ser	His	Val	85	90	95	
Gly	Glu	Arg	Met	Ala	Val	Asp	Met	Arg	Arg	Ala	Leu	Phe	Ser	Ser	Leu	100	105	110	
Leu	Arg	Gln	Asp	Ile	Thr	Phe	Phe	Asp	Ala	Asn	Lys	Thr	Gly	Gln	Leu	115	120	125	
Val	Ser	Arg	Leu	Thr	Thr	Asp	Val	Gln	Glu	Phe	Lys	Ser	Ser	Phe	Lys	130	135	140	
Leu	Val	Ile	Ser	Gln	Gly	Leu	Arg	Ser	Cys	Thr	Gln	Val	Ala	Gly	Cys	145	150	155	160
Leu	Val	Ser	Leu	Ser	Met	Leu	Ser	Thr	Arg	Leu	Thr	Leu	Leu	Leu	Met	165	170	175	
Val	Ala	Thr	Pro	Ala	Leu	Met	Gly	Val	Gly	Thr	Leu	Met	Gly	Ser	Gly	180	185	190	
Leu	Arg	Lys	Leu	Ser	Arg	Gln	Cys	Gln	Glu	Gln	Ile	Ala	Arg	Ala	Met	195	200	205	
Gly	Val	Ala	Asp	Glu	Ala	Leu	Gly	Asn	Val	Arg	Thr	Val	Arg	Ala	Phe	210	215	220	
Ala	Met	Glu	Gln	Arg	Glu	Glu	Glu	Arg	Tyr	Gly	Ala	Glu	Leu	Glu	Ala	225	230	235	240
Cys	Arg	Cys	Arg	Ala	Glu	Glu	Leu	Gly	Arg	Gly	Ile	Ala	Leu	Phe	Gln	245	250	255	
Gly	Leu	Ser	Asn	Ile	Ala	Phe	Asn	Cys	Met	Val	Leu	Gly	Thr	Leu	Phe	260	265	270	
Ile	Gly	Gly	Ser	Leu	Val	Ala	Gly	Gln	Gln	Leu	Thr	Gly	Gly	Asp	Leu	275	280	285	
Met	Ser	Phe	Leu	Val	Ala	Ser	Gln	Thr	Val	Gln	Ser	Phe	Leu	Arg	Val	290	295	300	
Ala	Pro	Cys	Pro	Asn	Ser	Leu	Pro	Leu	Gln	Ala	Val	Thr	Leu	His	Ala	305	310	315	320
Trp	Lys	Asp	His	Pro															

325

<210> 4337  
 <211> 461  
 <212> DNA  
 <213> Homo sapiens

<400> 4337  
 tctattatgt tgtcctgatt acatatcagc aaaatgtttt tctggggcat tgtgcataaa  
 60  
 acaaaggaga aaacaacatc tctagccggc cagcgtgcct gtccctccct cccgcagagg  
 120  
 cctgggaggc tgaggggtgag gaaggccagc tgtgctggct gcagagggct ttgctgtttc  
 180  
 tccacagagc agcagggtgc cccttccctt ctccctccct ccacctcacc tccatgggct  
 240  
 ccactggatg ggaacctatg gcttgtttct cccaccctta gactgggata tcctggggca  
 300  
 gaagaggctt cccaagtggc acagacagag ccaggctgac tgaatgtgag attcatgaat  
 360  
 gaacagtgat accaggcata gccctgccct ttagcatcct gagggccacg tggagttttc  
 420  
 tgcaacactg cccgccgtgt tccagcatct gccttccact t  
 461

<210> 4338  
 <211> 118  
 <212> PRT  
 <213> Homo sapiens

<400> 4338  
 Met Asn Leu Thr Phe Ser Gln Pro Gly Ser Val Cys Ala Thr Trp Glu  
 1 5 10 15  
 Ala Ser Ser Ala Pro Gly Asp Pro Ser Leu Gly Val Gly Arg Thr Ser  
 20 25 30  
 Thr Trp Phe Pro Ser Ser Gly Ala His Gly Gly Glu Val Glu Gly Gly  
 35 40 45  
 Arg Arg Glu Gly Ala Thr Cys Cys Ser Val Glu Lys Gln Gln Ser Pro  
 50 55 60  
 Leu Gln Pro Ala Gln Leu Ala Phe Leu Thr Leu Ser Leu Pro Gly Leu  
 65 70 75 80  
 Cys Gly Arg Glu Gly Gln Ala Arg Trp Pro Ala Arg Asp Val Val Phe  
 85 90 95  
 Ser Phe Val Leu Cys Thr Met Pro Gln Lys Asn Ile Leu Leu Ile Cys  
 100 105 110  
 Asn Gln Asp Asn Ile Ile  
 115

<210> 4339  
 <211> 5269  
 <212> DNA  
 <213> Homo sapiens

<400> 4339

nnagccatgc ccacgaactt tacggtggtg cccgtggagg ctcacgccga cggcggcggg  
60  
gacgagactg ccgagcggac ggaggctccg ggcacccccg agggccccga gcccgagcgc  
120  
cccagccccg gagatggaaa tccaagagaa aacagcccat tcctcaacaa tgtcgagggtg  
180  
gaacaagaga gcttctttga aggaagaac atggcacttt tcgaggagga gatggacagt  
240  
aaccatcatg tgcctcgcg gctcaacaag ctggccaact acaccaacct gagccagggc  
300  
gtggtggagc acgaggagga cgaggagagc cggcggcggg aggccaaaggc tccgcgcagt  
360  
ggcaccttca tcggcgctca cctgccgtgc ctgcagaaca tcctgggcgt catcctcttc  
420  
ctgcgcctga cgtggatcgt ggggggtggct ggtgtcctgg agtccttctt catcgtggcc  
480  
atgtgctgca catgtacaat gctgaccgcc atttccatga gtgcgatcgc taccaacggt  
540  
gtggtcccag ctggcgggtc ctactacatg atatcgcgct cgctgggacc cgagtttgga  
600  
ggcgtgtcg gcctctgctt ctacctgggc acgacgtttg caggggccat gtatatatttg  
660  
gggaccatcg agatttttct gacgtacatc tccccgggtg cggccatctt ccaggcggag  
720  
gctgcagggtg gcgaggcggc cgccatgctg cacaacatgc gtgtgtacgg cactgtcacg  
780  
ctcgtgctca tggccctggt ggtcttcgtg ggcgtcaagt atgtcaacaa gctggcgctg  
840  
gtcttctctg cctgcgtcgt gctgtccatc ctggccatct atgccggcgt catcaagtct  
900  
gccttcgacc ccccgacat cccggtctgc ctctgggga accgcacgct gtcacggcgc  
960  
agcttcgatg cctgcgtcaa ggcctacggc atccacaaca actcagccac ctccgcgctc  
1020  
tggggcctct tctgcaacgg ctcccagccc agcgccgcct gtgacgagta cttcatccag  
1080  
aacaacgtca ccgaaatcca gggcatcccc ggcgcggcca gtggtgtctt cctggagaac  
1140  
ctgtggagta cgtacgcgca cgcgggggcg tttgtggaga agaaagggtg gccctcgggtg  
1200  
cccgtggcag aggagagccg tgccagcgca ctgccctacg tgctcaccga catcgcggcc  
1260  
tccttcaccc tgcgtggttg catctacttc ccttcctgta ccggtatcat ggcgggttca  
1320  
aaccggtccg gggacctcaa ggatgcacag aagtccatcc ccacggggac catcctggcc  
1380  
atagtacga cgtctttcat ctatctctcc tgcattgtgc tgtttggggc ctgcattgaa  
1440  
ggcgtggtct tacgagataa gttcggggag gccctgcagg ggaacctggt catcggcagt  
1500  
ctggcctggc cctccccctg ggtcatcgtc atcggctcct tcttctccac ctgcgggtgc  
1560  
ggcctgcaga ccctcacggg ggcaccgcgc ctactgcagg ccattgcccg tgacggcatc  
1620

gtcccccttcc tgcaggtggt tggccacggg aaggccaacg gggagcccac gtgggcgctg  
1680  
ctgctgacag tcctcatctg cgagactggc atcctcatcg cctctctgga cagcgtggcc  
1740  
ccgatacctct ccatgttctt cctcatgtgc tacctgttcg tgaacctggc ctgcgccgtg  
1800  
cagaccctgc tacgtacccc caactggcgt ccacgcttca agttctacca ctggaccctg  
1860  
tcctttcttg gtatgagcct gtgcctggcg ctgatgttca tctgctcctg gtactacgcg  
1920  
ctgtccgcca tgctcatcgc tggctgcac tacaagtaca tcgagtaccg cggggccgag  
1980  
aaggagtggg gcgatggcat ccgtggccta tcctgaacg ccgcccgcta cgccctgctg  
2040  
cgctgggagc acgggtcccc ccacaccaag aactggaggc ccaggtgct ggtgatgctg  
2100  
aacctggacg cggagcaggc cgtgaagcac cccgcctgc tgccttcac gtcgcagctg  
2160  
aaggccggca agggcctgac catcgtgggc tcggtgctgg aggggacgta cctggacaag  
2220  
cacatggagg ctcagcgggc cgaggagaac atacggctcc taatgagcac agagaagacc  
2280  
aagggtctct gccagctggt ggtctcgtcc agcctgcggg atggcatgtc ccacctgatc  
2340  
cagtcggccg gcctgggcgg cctgaagcac aacacggtgc tcatggcctg gcccgcatcc  
2400  
tggaagcagg aggacaaccc cttctcctgg aagaactttg tagacaccgt ccgcgacacc  
2460  
accgccgcgc accaggtctt gctggtggcc aagaacgtcg actcgtttcc gcaaaaccag  
2520  
gagcgcttcg gcggggggcca catcgacgtg tgggtggatcg tgcacgacgg cggcatgctc  
2580  
atgctgctgc ccttctctgct gcgccagcac aagggtgtgga ggaagtgccg gatgcgtatc  
2640  
ttcacctggt ccaggtgga cgacaacagc atccagatga agaaggacct gcagatgttc  
2700  
ttgtatcact tgcgcatcag cgccgaggtg gaggtggtgg agatggttga aaacgacata  
2760  
tctgctttca cctacgagag gacactaatg atggagcaga ggtcgcagat gctgaagcag  
2820  
atgcagctgt ccaagaacga gcaggagcga gagggccagc tgatccacga caggaacacc  
2880  
gcgtcccaca ccgcggcggc agccaggacc caagcgccgc ctacgccaga caaggtgcag  
2940  
atgacctgga ccagggagaa gctgatcgtc gagaagtaca ggagcagaga caccagccta  
3000  
tccggtttca aagacctctt cagcatgaag ccagaatggg gaaacctgga ccagtccaac  
3060  
gtcaggcgga tgcacacggc tgtgaagctc aatggcgctc tcctcaacaa gtcccaggat  
3120  
gcgcagctgg tcctgctcaa catgccaggt cctcccaaaa accggcaggg agacgagaac  
3180  
tacatggagt ttcttgaagt cctgaccgag gggctgaaca ggtcctcct ggtcaggggt  
3240



ggcggccggg aggtgatcac catctactcc taatgcccaa cagcatcacg gcactctggg  
3300  
acaggcacgg aggacggcgt gggcagcctg ggcctgggct tggcccaggg aaacagacgg  
3360  
cagacacacc tgtccccag tgatgccgcc caagctgccc atggggcttc ctacggaagt  
3420  
ttctaggccc gtcacctagg gctctcctgt tcagccttaa caggctcagc aaatcagggc  
3480  
gtggetggac gatttccttg catctgaggg cagacgctgc taccggagtg acctggacgt  
3540  
ggccagatct tctcgcaggt cacaagaagc cagtgaagccc ttgccttggt ttctggaagt  
3600  
tcttttcctt ggctggattt acccagtggt taggttgcat ttctaccca tccagaacat  
3660  
tcttggaaga gcacccggag ctgaagctgt ccctgatgat gaaggtgaaa cgtcagccct  
3720  
ggccatggct ccgctcaggg ccccggtcac ctccgagtca ctctgttcct tgactgtctt  
3780  
tgtgtttctg tacctcaagg cactgaagct ggaggactct gtccatgccc gtgtcacct  
3840  
cgtgtgggag cctctgggct cggcaggtcc acatttcatg agctgaggcg tgggccaggg  
3900  
ccatctggaa agggaaactcg gcttttccag aacgtggtgg atcatctgtc ggggtgtgtg  
3960  
tgaacacgtt cagttcatca gggcctacgc tccgggaagg ggccccagc tgtggctctg  
4020  
ccatgccggg ctgtgtttgc agctgtccga gtctccatcc acctttagaa aaccagccac  
4080  
ttcttttcat aagcactgac agggcccagc ccacagccac aggtgcgatc agtgcctcac  
4140  
gcaggcaaat gcactgaaac ccaggggcac acgcgcgcag agtgaacagt gaggttcccc  
4200  
gacagcccac gacagccagg actgccctcc ccaccccacc ccacccagg agcacggcac  
4260  
acagttcagc ctctgagctg gctcacacgt gccatcccca ccccggtgct ccagggaagg  
4320  
aggacacgga cccgacgtgg gaggtectca ggcagcagtg gcgcctgggtg tcaggtctgt  
4380  
ctggctgagt cccgggctgc ccctgccatg gcctgtgcct tgcattggagg cggcggtggc  
4440  
actgaagaga tagctttcaa gggcccaaca ctttgactt cggctggctg tgagtttctg  
4500  
ctttgtaggt tgtggtcaca tttgcaggct gcgggcagtg gcaccgactt gggcctccct  
4560  
ttctatgtgg catatttatt tatttaaaca cccagggag ttacgtggta acaaggttgt  
4620  
ccataaagag gttgcttcta tatactagag gcccagatg gccaggcctt gggctacgtc  
4680  
tggcttgcat ggtctcccaa gggaatcagc cccatcaaca aagttcaa at cggggcagag  
4740  
gctgcacttg tgccccaga tgtttctgag gagccagact agggctggca ttgctgtaga  
4800  
gtgacggctg ctgccagag cgtgtcccag acatcacagc ggggctcagc agttcccaca  
4860

gcctctgcct gccttggeta agcatgagtt aagcagcaaa acgctcctcc atgtctggat  
4920  
ggggccggca ggtcctgtgt cccctgcacc tggaggagag caggctagag gcacagcggc  
4980  
cacatggtgc tggtctgaa cgttggttgg tggttgaaa acagccctgc ttctgagggc  
5040  
cgctcagttc tgcacacgaa accacctcct gagggctcag ctctgcccc gccctgggct  
5100  
gcagcctctg cagcgaagca ccaggcatcc tttgtgttgt caactccgtg taaccagtaa  
5160  
ctacagccat ttacaattga ctccgtttcc tttttaggtt ttccctgtct gtctgtgta  
5220  
gtagaaaaat aaaatcctat gaaatctgaa aaaaaaaaaa aaaaaaaaaa  
5269

<210> 4340

<211> 1088

<212> PRT

<213> Homo sapiens

<400> 4340

Met	Pro	Thr	Asn	Phe	Thr	Val	Val	Pro	Val	Glu	Ala	His	Ala	Asp	Gly
1				5					10					15	
Gly	Gly	Asp	Glu	Thr	Ala	Glu	Arg	Thr	Glu	Ala	Pro	Gly	Thr	Pro	Glu
			20					25					30		
Gly	Pro	Glu	Pro	Glu	Arg	Pro	Ser	Pro	Gly	Asp	Gly	Asn	Pro	Arg	Glu
			35				40					45			
Asn	Ser	Pro	Phe	Leu	Asn	Asn	Val	Glu	Val	Glu	Gln	Glu	Ser	Phe	Phe
	50					55				60					
Glu	Gly	Lys	Asn	Met	Ala	Leu	Phe	Glu	Glu	Glu	Met	Asp	Ser	Asn	Pro
65					70					75					80
Met	Val	Ser	Ser	Leu	Leu	Asn	Lys	Leu	Ala	Asn	Tyr	Thr	Asn	Leu	Ser
				85					90					95	
Gln	Gly	Val	Val	Glu	His	Glu	Glu	Asp	Glu	Glu	Ser	Arg	Arg	Arg	Glu
			100					105					110		
Ala	Lys	Ala	Pro	Arg	Met	Gly	Thr	Phe	Ile	Gly	Val	Tyr	Leu	Pro	Cys
		115				120						125			
Leu	Gln	Asn	Ile	Leu	Gly	Val	Ile	Leu	Phe	Leu	Arg	Leu	Thr	Trp	Ile
	130				135						140				
Val	Gly	Val	Ala	Gly	Val	Leu	Glu	Ser	Phe	Leu	Ile	Val	Ala	Met	Cys
145					150					155				160	
Cys	Thr	Cys	Thr	Met	Leu	Thr	Ala	Ile	Ser	Met	Ser	Ala	Ile	Ala	Thr
			165						170					175	
Asn	Gly	Val	Val	Pro	Ala	Gly	Gly	Ser	Tyr	Tyr	Met	Ile	Ser	Arg	Ser
		180					185						190		
Leu	Gly	Pro	Glu	Phe	Gly	Gly	Ala	Val	Gly	Leu	Cys	Phe	Tyr	Leu	Gly
	195					200						205			
Thr	Thr	Phe	Ala	Gly	Ala	Met	Tyr	Ile	Leu	Gly	Thr	Ile	Glu	Ile	Phe
	210				215						220				
Leu	Thr	Tyr	Ile	Ser	Pro	Gly	Ala	Ala	Ile	Phe	Gln	Ala	Glu	Ala	Ala
225				230						235				240	
Gly	Gly	Glu	Ala	Ala	Ala	Met	Leu	His	Asn	Met	Arg	Val	Tyr	Gly	Thr
			245						250					255	
Cys	Thr	Leu	Val	Leu	Met	Ala	Leu	Val	Val	Phe	Val	Gly	Val	Lys	Tyr

				260						265						270		
Val	Asn	Lys	Leu	Ala	Leu	Val	Phe	Leu	Ala	Cys	Val	Val	Leu	Ser	Ile			
		275					280						285					
Leu	Ala	Ile	Tyr	Ala	Gly	Val	Ile	Lys	Ser	Ala	Phe	Asp	Pro	Pro	Asp			
	290					295					300							
Ile	Pro	Val	Cys	Leu	Leu	Gly	Asn	Arg	Thr	Leu	Ser	Arg	Arg	Ser	Phe			
305					310					315					320			
Asp	Ala	Cys	Val	Lys	Ala	Tyr	Gly	Ile	His	Asn	Asn	Ser	Ala	Thr	Ser			
				325					330					335				
Ala	Leu	Trp	Gly	Leu	Phe	Cys	Asn	Gly	Ser	Gln	Pro	Ser	Ala	Ala	Cys			
			340					345					350					
Asp	Glu	Tyr	Phe	Ile	Gln	Asn	Asn	Val	Thr	Glu	Ile	Gln	Gly	Ile	Pro			
		355					360					365						
Gly	Ala	Ala	Ser	Gly	Val	Phe	Leu	Glu	Asn	Leu	Trp	Ser	Thr	Tyr	Ala			
	370					375					380							
His	Ala	Gly	Ala	Phe	Val	Glu	Lys	Lys	Gly	Val	Pro	Ser	Val	Pro	Val			
385					390					395					400			
Ala	Glu	Glu	Ser	Arg	Ala	Ser	Ala	Leu	Pro	Tyr	Val	Leu	Thr	Asp	Ile			
				405					410					415				
Ala	Ala	Ser	Phe	Thr	Leu	Leu	Val	Gly	Ile	Tyr	Phe	Pro	Ser	Val	Thr			
			420					425					430					
Gly	Ile	Met	Ala	Gly	Ser	Asn	Arg	Ser	Gly	Asp	Leu	Lys	Asp	Ala	Gln			
		435					440					445						
Lys	Ser	Ile	Pro	Thr	Gly	Thr	Ile	Leu	Ala	Ile	Val	Thr	Thr	Ser	Phe			
	450					455					460							
Ile	Tyr	Leu	Ser	Cys	Ile	Val	Leu	Phe	Gly	Ala	Cys	Ile	Glu	Gly	Val			
465					470					475					480			
Val	Leu	Arg	Asp	Lys	Phe	Gly	Glu	Ala	Leu	Gln	Gly	Asn	Leu	Val	Ile			
				485				490						495				
Gly	Met	Leu	Ala	Trp	Pro	Ser	Pro	Trp	Val	Ile	Val	Ile	Gly	Ser	Phe			
			500					505					510					
Phe	Ser	Thr	Cys	Gly	Ala	Gly	Leu	Gln	Thr	Leu	Thr	Gly	Ala	Pro	Arg			
		515					520					525						
Leu	Leu	Gln	Ala	Ile	Ala	Arg	Asp	Gly	Ile	Val	Pro	Phe	Leu	Gln	Val			
	530					535					540							
Phe	Gly	His	Gly	Lys	Ala	Asn	Gly	Glu	Pro	Thr	Trp	Ala	Leu	Leu	Leu			
545					550					555					560			
Thr	Val	Leu	Ile	Cys	Glu	Thr	Gly	Ile	Leu	Ile	Ala	Ser	Leu	Asp	Ser			
				565				570						575				
Val	Ala	Pro	Ile	Leu	Ser	Met	Phe	Phe	Leu	Met	Cys	Tyr	Leu	Phe	Val			
			580					585					590					

```

        690                695                700
Ala Val Lys His Pro Arg Leu Leu Ser Phe Thr Ser Gln Leu Lys Ala
705                710                715                720
Gly Lys Gly Leu Thr Ile Val Gly Ser Val Leu Glu Gly Thr Tyr Leu
        725                730                735
Asp Lys His Met Glu Ala Gln Arg Ala Glu Glu Asn Ile Arg Ser Leu
        740                745                750
Met Ser Thr Glu Lys Thr Lys Gly Phe Cys Gln Leu Val Val Ser Ser
        755                760                765
Ser Leu Arg Asp Gly Met Ser His Leu Ile Gln Ser Ala Gly Leu Gly
        770                775                780
Gly Leu Lys His Asn Thr Val Leu Met Ala Trp Pro Ala Ser Trp Lys
785                790                795                800
Gln Glu Asp Asn Pro Phe Ser Trp Lys Asn Phe Val Asp Thr Val Arg
        805                810                815
Asp Thr Thr Ala Ala His Gln Ala Leu Leu Val Ala Lys Asn Val Asp
        820                825                830
Ser Phe Pro Gln Asn Gln Glu Arg Phe Gly Gly Gly His Ile Asp Val
        835                840                845
Trp Trp Ile Val His Asp Gly Gly Met Leu Met Leu Leu Pro Phe Leu
        850                855                860
Leu Arg Gln His Lys Val Trp Arg Lys Cys Arg Met Arg Ile Phe Thr
865                870                875                880
Val Ala Gln Val Asp Asp Asn Ser Ile Gln Met Lys Lys Asp Leu Gln
        885                890                895
Met Phe Leu Tyr His Leu Arg Ile Ser Ala Glu Val Glu Val Val Glu
        900                905                910
Met Val Glu Asn Asp Ile Ser Ala Phe Thr Tyr Glu Arg Thr Leu Met
        915                920                925
Met Glu Gln Arg Ser Gln Met Leu Lys Gln Met Gln Leu Ser Lys Asn
        930                935                940
Glu Gln Glu Arg Glu Ala Gln Leu Ile His Asp Arg Asn Thr Ala Ser
945                950                955                960
His Thr Ala Ala Ala Ala Arg Thr Gln Ala Pro Pro Thr Pro Asp Lys
        965                970                975
Val Gln Met Thr Trp Thr Arg Glu Lys Leu Ile Ala Glu Lys Tyr Arg
        980                985                990
Ser Arg Asp Thr Ser Leu Ser Gly Phe Lys Asp Leu Phe Ser Met Lys
        995                1000                1005
Pro Glu Trp Gly Asn Leu Asp Gln Ser Asn Val Arg Arg Met His Thr
        1010                1015                1020
Ala Val Lys Leu Asn Gly Val Val Leu Asn Lys Ser Gln Asp Ala Gln
1025                1030                1035                1040
Leu Val Leu Leu Asn Met Pro Gly Pro Pro Lys Asn Arg Gln Gly Asp
        1045                1050                1055
Glu Asn Tyr Met Glu Phe Leu Glu Val Leu Thr Glu Gly Leu Asn Arg
        1060                1065                1070
Val Leu Leu Val Arg Gly Gly Gly Arg Glu Val Ile Thr Ile Tyr Ser
        1075                1080                1085

```

<210> 4341  
 <211> 693  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 4341

agatctaagt agttgtttta tattgagaaa gcaacaatgt ttctcgaata agttgatgtt  
 60  
 gatttttaaat tataagcttt aaagaatttt ttttctagaa aaaggggatg gaaaaaaaaag  
 120  
 gacctgaggg agccatatgc atcaagtgag tgtttctcca taacagaata tttataagag  
 180  
 aacatgtata gtgcctcttt ttgagtgatg ccgacagaca ccaagccctc cttttcacca  
 240  
 agtcccaggc ttgcattcca gcctcttgag ctctgccctc tctcaggtgg atctttgtgt  
 300  
 tggaccttac gtttcagcaa cctcaccatg gccacataac ccacaacctt ttaaaacagt  
 360  
 ttctttcata gcaatccctg tttctgccag acagatctaa aatgggagtt tctcactgtg  
 420  
 tttatctgat ctgcacactt tatatccagc tgttttggca cttttacgtt ttcttcacct  
 480  
 ttgggttttg tttgcaaatt cttacacctt ctctccaagc ggagggcaca ctgtgggtcaa  
 540  
 aatcacttat tttattagga aaaagaggta actgttccaa agtgtagtgt cttttgttga  
 600  
 aggaggaggg atgtaagcat agatttggtc ttgtttctgg ctattctcag ctcaagccat  
 660  
 gtttaattca ttctttgtaa aagccttcaa ttg  
 693

&lt;210&gt; 4342

&lt;211&gt; 103

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4342

Met	Val	Arg	Leu	Leu	Lys	Arg	Lys	Val	Gln	His	Lys	Asp	Pro	Pro	Glu
1				5					10					15	
Arg	Gly	Gln	Ser	Ser	Arg	Gly	Trp	Asn	Ala	Ser	Leu	Gly	Leu	Gly	Glu
			20					25					30		
Lys	Glu	Gly	Leu	Val	Ser	Val	Gly	Ile	Thr	Gln	Lys	Arg	Ala	Leu	Tyr
		35					40					45			
Met	Phe	Ser	Tyr	Lys	Tyr	Ser	Val	Met	Glu	Lys	His	Ser	Leu	Asp	Ala
	50					55					60				
Tyr	Gly	Ser	Leu	Arg	Ser	Phe	Phe	Phe	His	Pro	Leu	Phe	Leu	Glu	Lys
65					70					75				80	
Lys	Phe	Phe	Lys	Ala	Tyr	Asn	Leu	Lys	Ser	Thr	Ser	Thr	Tyr	Ser	Arg
			85					90						95	
Asn	Ile	Val	Ala	Phe	Ser	Ile									
															100

&lt;210&gt; 4343

&lt;211&gt; 499

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4343

caattggaag gccgcgcctc aggaaaacag gatggtagtt gaatggcacc gagccgcccc  
 60  
 aggctgccgc cgtcacctcc tcagcggtc cgagtcgtgc gaggcagggg accctttgcc  
 120  
 ttcagaacag ggcgcccac gttgggcgcg tggacagagt cctccggcgg ccgcgccgct  
 180  
 gggccaggcg gagagaggcg gacggacttc aggggaggcc cgggccacgc cgcggaact  
 240  
 acccgactcc ctggaggcgg ccaggaccga ccctgtcccg acaaaatgga gttccccgtg  
 300  
 tggcttcagc tcgcggcgcg ttccagagc tcctcagtga tccggctttc ggattgttcg  
 360  
 cctttcatct catttgccgt tgtccaaatt ctaatttaaa actcatgtgt tacttgcgtg  
 420  
 aagggttaaca aacgtacacc gcaaactgga taaaggata acttttatgt tgtgtatgtt  
 480  
 ttaccacaat aaaaataaa  
 499

<210> 4344  
 <211> 118  
 <212> PRT  
 <213> Homo sapiens

<400> 4344  
 Met Ala Pro Ser Arg Pro Arg Leu Pro Pro Ser Pro Pro Gln Arg Leu  
 1 5 10 15  
 Arg Val Val Arg Gly Arg Gly Pro Phe Ala Phe Arg Thr Gly Arg Pro  
 20 25 30  
 Thr Leu Gly Ala Trp Thr Glu Ser Ser Gly Gly Arg Ala Ala Gly Pro  
 35 40 45  
 Gly Gly Glu Arg Arg Thr Asp Phe Arg Gly Gly Pro Gly His Ala Ala  
 50 55 60  
 Glu Thr Thr Arg Leu Pro Gly Gly Gly Gln Asp Arg Pro Cys Pro Asp  
 65 70 75 80  
 Lys Met Glu Phe Pro Val Trp Leu Gln Leu Ala Ala Arg Ser Gln Ser  
 85 90 95  
 Ser Ser Val Ile Arg Leu Ser Asp Cys Ser Pro Phe Ile Ser Phe Ala  
 100 105 110  
 Val Val Gln Ile Leu Ile  
 115

<210> 4345  
 <211> 349  
 <212> DNA  
 <213> Homo sapiens

<400> 4345  
 gcgtctatcc cagactaccg gggccctaatt ggagtgtgga cactgcttca gaaagggaga  
 60  
 agcgtagtg ctgccgacnc tgagcgagcc gagccaaccc tcaccacat gagcatcacc  
 120  
 cgtctgcatg agcagaagct ggtgcagcat gtggtgtctc agaactgtga cgggctccac  
 180

ctgaggagtg ggctgncgcg cacggccatc tccgagctcc acgggaacat gtacattgaa  
 240  
 ggagtacgtg cgggtgttcg atgtgacgga gcgcactgcc ctccacagac accagacagg  
 300  
 ccggacctgc cacaagtgtg ggaccagct gcgggacacc attgtgcac  
 349

<210> 4346  
 <211> 116  
 <212> PRT  
 <213> Homo sapiens

<400> 4346  
 Ala Ser Ile Pro Asp Tyr Arg Gly Pro Asn Gly Val Trp Thr Leu Leu  
 1 5 10 15  
 Gln Lys Gly Arg Ser Val Ser Ala Ala Asp Xaa Glu Arg Ala Glu Pro  
 20 25 30  
 Thr Leu Thr His Met Ser Ile Thr Arg Leu His Glu Gln Lys Leu Val  
 35 40 45  
 Gln His Val Val Ser Gln Asn Cys Asp Gly Leu His Leu Arg Ser Gly  
 50 55 60  
 Leu Xaa Arg Thr Ala Ile Ser Glu Leu His Gly Asn Met Tyr Ile Glu  
 65 70 75 80  
 Gly Val Arg Ala Gly Val Arg Cys Asp Gly Ala His Cys Pro Pro Gln  
 85 90 95  
 Thr Pro Asp Arg Pro Asp Leu Pro Gln Val Trp Asp Pro Ala Ala Gly  
 100 105 110  
 His His Cys Ala  
 115

<210> 4347  
 <211> 353  
 <212> DNA  
 <213> Homo sapiens

<400> 4347  
 gcgcgcctgc ccgtctctgc aacaccggcc acacggcgac gcgcgcgagg ggcggacagg  
 60  
 gcactaggag gaggcgattc aggctgagac tcctccggga tctcgacgcc ccgaccgccg  
 120  
 ccccggggct cgcgcgcagc gggctccagct gcacaaagcc gtccgctccg tcccgcggag  
 180  
 gccaggcagt gcagaggcag gagccgccgt cgggtagcga gatcttcaact gccgagccca  
 240  
 agcgcgcgcc cagggcgtgg agggcgggccg ggcccaggcg gcagcgctgg gtgccccggt  
 300  
 ctctagcgtc taagggtagc agctttaaga gcggcccttc agggaaggga tcc  
 353

<210> 4348  
 <211> 72  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 4348

Asp Ser Ser Gly Ile Ser Thr Pro Arg Pro Pro Pro Arg Gly Ser Arg  
 1 5 10 15  
 Ala Ala Gly Pro Ala Ala Gln Ser Arg Pro Leu Arg Pro Ala Glu Ala  
 20 25 30  
 Arg Gln Cys Arg Gly Arg Ser Arg Arg Arg Val Ala Arg Ser Ser Leu  
 35 40 45  
 Pro Ser Pro Ser Ala Arg Pro Gly Arg Gly Gly Arg Pro Gly Pro Gly  
 50 55 60  
 Gly Ser Ala Gly Cys Pro Gly Leu  
 65 70

&lt;210&gt; 4349

&lt;211&gt; 2040

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4349

nttttttttt ttttgagata taaaaatctg tatttatatt acaatgacat aaggacacag  
 60  
 cacggcccac acggtggaca ggtggccggg ggcccctttc cccctctagc gcacgcccc  
 120  
 ctcaccggca ccaggccctc gtgtggcccc cgactctggc acggaacctg ccctagtgcc  
 180  
 caacatggac ctggggccac cctgctggcc gagggtcagg gtcctctgtg caggcagtgg  
 240  
 ggaggggggtc ccaggttccc tgacagaggg aggcagggca cgggggagcc tgcctcacc  
 300  
 agcggacagc acggggccggg gcagacagag cagggaccct agggccacag accggtacag  
 360  
 ggttccacca cccggggaca caggcccaag caccgtgcca ctaagatggg gtctgcagag  
 420  
 gcaaagcctt gctgcagcct ctcccactct gcgaggatgg cgggggtctg ctatgtggtt  
 480  
 tgcggggggtt atcctgggtat gcgggagctg ccttccaata aggctgggga acccaagcct  
 540  
 gagtctgggt gctcagtggc cgagagcact ggtgtgggct gggagggcac acgcagaggc  
 600  
 tcaggagccc cgggctctgt tctgcttctg tctgctctct atagacacgg tgatggcctc  
 660  
 ttggtccctg cagcctccag tgatggcagc ctgggcccct gacagggagc agtgggaggt  
 720  
 tggagcatgt ggtgactcct agcacgggccc cccaccaggt gggcaacccc tcaccacct  
 780  
 gctgatggca gggaggggca gctgaacagc accccgggtg gctgagactg cctcccagtc  
 840  
 cacgtgggaa ccacggcctc aagagccaca ggctgagctg ccgggagggg gggctgaggg  
 900  
 gccaccactg gtcaccgggt ggattctgct ggtcagagat gagagcagaa gcccctagct  
 960  
 gcctcaggca ctggaggggt gggcagggag ctggtgcttc aagaattgag ggcagggaca  
 1020  
 cgaccacctc agggccctgc agtgctggct ggggaagcaa gcttttacac acggccccgc  
 1080



ttgctcggag gtgccacggt gtttgaaatg aagcctgggg ggacagactc aggcaggcag  
 1140  
 ggggaagctcc tttctgggca cccctggacc ccagtggggc cggaaggaga tgcagacagg  
 1200  
 cctcctcaca accaccgca acgcgttcgg atgcccctca gctccaggca ccatgcccc  
 1260  
 tacagcctgc agggcagggt ctgtgccaga gttgtttcca gggacccccct tccgccacag  
 1320  
 tgggcccccc atcctggggc gtctatgcgt acgactgaaa atagacacga attttcccca  
 1380  
 tgatatggga attggctaca gatgtaccag aggcacggca ggcactgcta tgggccagcc  
 1440  
 ccaaggacag aggacgtcag gaaggaaagg cgggtgcaag cctcctggtg ccaggcctgc  
 1500  
 accaccacgc gagcacagtc ttcattggct gccagtgtct gaaacctgga accctcgctt  
 1560  
 aggccaggaa gcagggggct cgagtcaggt gacaggtgag aatccatctc tctagtgagc  
 1620  
 aagcaggccc ctgccagcca ctggggaggg caacactggg gaccaggtca cagccccctc  
 1680  
 gtgccaccca caggggcctg gctgcatcgc ctccaggaag ccctggctgc cgggaggggc  
 1740  
 tgcccacagg agatgggagg acagcactag ctgggcaggc ctggggcacc ctgagccacg  
 1800  
 agggacatgc tgggtgggaag ggcaaggcct gacacaagac acaaggcaca ctttgacgac  
 1860  
 gtgacggagg gacaggtccc tgagacgctg ggtggctccc acccctcagc aaacaaggac  
 1920  
 gcaacaacag ctaggaaaat agaatacaaa aatctggtac aggaaacaga ggcggcacag  
 1980  
 aacctgcct gcaggctgta gggggcatgg tgcttgagc tgaggggcat ccgaacgcgt  
 2040

&lt;210&gt; 4350

&lt;211&gt; 113

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4350

Xaa	Phe	Phe	Phe	Leu	Arg	Tyr	Lys	Asn	Leu	Tyr	Leu	Tyr	Tyr	Asn	Asp
1				5					10					15	
Ile	Arg	Thr	Gln	His	Gly	Pro	His	Gly	Gly	Gln	Val	Ala	Gly	Gly	Pro
			20					25					30		
Phe	Pro	Pro	Leu	Ala	His	Ala	Pro	Leu	Thr	Gly	Thr	Arg	Pro	Ser	Cys
		35					40					45			
Gly	Pro	Arg	Leu	Trp	His	Gly	Thr	Cys	Pro	Ser	Ala	Gln	His	Gly	Pro
	50					55					60				
Gly	Ala	Thr	Leu	Leu	Ala	Glu	Gly	Gln	Gly	Pro	Leu	Cys	Arg	Gln	Trp
65					70					75				80	
Gly	Gly	Gly	Pro	Arg	Phe	Pro	Asp	Arg	Gly	Arg	Gln	Gly	Thr	Gly	Glu
				85					90					95	
Pro	Ala	Ser	Pro	Ser	Gly	Gln	His	Gly	Pro	Gly	Gln	Thr	Glu	Gln	Gly
			100					105					110		
Pro															

<210> 4351  
<211> 4703  
<212> DNA  
<213> Homo sapiens

<400> 4351  
nntttttttt tttttttttt tttttaaaga aataaattta ctttaaatggt actttcaaaa  
60  
agactaatcc ataacaaatt aagttatact gtatttcctt tgctaccag aaccacaggg  
120  
ctggttgtca acacatattg aagaaatgta agcaaaatac agaaagtgat gattttcaaa  
180  
aggaagagaa gaaactcctt ttcaacaaac actttatatc atttattaat gcagtataca  
240  
ttagatctaa aatctgcagt ttctaagcac accatgttta gatctttcag atccttctgc  
300  
agttttaggt tatttctaca gaggtacctt taagtgaatg aataccacat tctgtaattc  
360  
ctgaaaatat agtacagagt gaaatgattt aaatataatt taggcacata ttgattatga  
420  
aaatagatta tctctcaata caatacttct ctgtcttggg aaaaataata aagcaaagaa  
480  
aataattcat ttctgaagtt gctttccttc acttgtaaag gtctgatctc ctcccactat  
540  
gcatatgtac cctttactgt taaggaaagc ttgcatatg tagatataga agaataagct  
600  
acgtaaatac taaagatatg tcattctccc aaaggagaca caggtgggtt tcaatgattc  
660  
cttgccctcat gttgatgagt ctgtagaatt cagaacccat ttggacacag ctaatatccc  
720  
tgctcttggg gtagaaaata aggacaccaa gtcattggta gggagggtaca ggcccttcct  
780  
ctgctgctgc agagagagaa tgactcaaga aaattgggct aaaatttggt taaaaaaaaa  
840  
aaaccacaaa aaaataagta aaagaatcac aggtgctgac tgattgataa ttacatcttg  
900  
gaccagccaa atgcctttat ttttacgtct atttttttgg tggctgtaat caaatgtgtg  
960  
tttaaaatc ctcattcccc actgtagggg tctagctgca attatattac attgcctttt  
1020  
agcaggcaac tctaccatat tcaactcatat aagctttgat tgcagtagct ctggatttag  
1080  
tatctatttc taagctggcc ctatgtaaac tatttggtat ttgaattaaa tgaatattaa  
1140  
tgatgcacct tggttttttt ggttttgaag tatcttcta tgcttggtgct gactgtatga  
1200  
gaaaactagg ctaatagtgt aaatagatag aattgcttga tctgggtgtg agtggaaactt  
1260  
gcctagaatg aaattctgag aaatgctcat ttgtaagtgt tgtagtgata ggtaagttat  
1320  
tcctccatcc agagttacac tgtacctttg gaatgacagt gatgtacaat gatgtctttc  
1380

tttccactct gtctcaatca gtaagaactg gatattactt taatttagct actgttctgt  
1440  
cctaaaaagt aaacattata aaaatgaacc tgaaaagagt cttagggagt ctgatctcac  
1500  
catattcata cgggtgtgaca ggtattttaa gaggggaggc atcactaaag ctatttataa  
1560  
acctgaacaa ccttttccaa gttttcataa agttttaaca atttaaatat ccatactgca  
1620  
tctaggaatt caataaatat aattgcatat gttgtgcttt ccataaatta aaatcctcaa  
1680  
atgcatctca aaccaagatg gtatttccac atcatgccta tttaaaagca aatataatag  
1740  
atactatgcc tggtcataaa accaggtaaa cccccctacc ccattcaaaa ggcagcaata  
1800  
tctagtttcc ctacatctat taaatgagtg cttttctggt aaaaatcaga atatggaaaa  
1860  
aaagtcagtt ttttccctta tgcaccactc aaaacaagca taatcctcta aatgtttttt  
1920  
ttttaaat ttttacagtg ttatttcttc tagacaactg agtgggtgga gaaagaaaag  
1980  
tgataaggaa aacattttca tcttttacat cttcctccag cccctaaaat tctcatctga  
2040  
cactttgtga catgtgtagt ggtgtcagca tctcttcaaa tatagctccc ttcacgttgg  
2100  
accctctcag gttggcttct tgaagatcac acccagacag atcacaaattc tgcaagatga  
2160  
aaacaatatt catgtaattc atgtggaaat ttcaggcctt atctatttct gctcagaatg  
2220  
atttctgggg cagattagga aaatgttctt atacaataaa actcagttaa tttccggaaa  
2280  
actgatgata caccacccta aattaagatg ttcttctatc tttatttggt acctctagtt  
2340  
caggetgatc accataaata tgtataaaca aagggttaaag aggaagcatg tcccttggtc  
2400  
ttgcatattt tataaggaga cattgaaaac aggggtcccc aaccctggg ccacagactg  
2460  
atactggtcc atggcctgtt aagaatcagg ccacacagca ggaggtcacc agtagatgaa  
2520  
gcttcatctg tatttacagc cagtcctgt atggtcaag ttacagcctg agtccacct  
2580  
cctgtcagat cagcaggggc attagattcg cacaggagcg tgaaccctat tgtgaactgc  
2640  
acatgtgagg gatctagggt ggggtactcct catgagaatc taatccctga tgagctgtca  
2700  
ctgtctccaa cacaccaga tgggactgtc tagttgcaag aaaacaaact cagggtcccc  
2760  
actgattcta cattatggtg agttatataa ttatttcatt atgtattaca atgtaatact  
2820  
agtagaaata aagtgcacaa taaatgtaac gcgcttgaat catcccaaaa ccagccccg  
2880  
actctgatct gtgaaaatat tttcttccac aaaaccagtc cctggtgcca aaaagggtgg  
2940  
ggaccactga tttaaaatac agaatggatt ccaacataat aaatacacac acacacacac  
3000

acacacacaa acacaatttt ttttttgaaa cggagttttg ctcttggtgc ccaggctgga  
3060  
gtgcaanntc tcggctcact gcaacctcca cctccaggat tcgagctatt ctcttgcttc  
3120  
agcttccaga gtagctgggg ttacaggcac tcaccaccac gcctggctaa tttttctatt  
3180  
tttagtagag acgggggttc accatgttgg ccaggctggt ctcaaactcc taacctcaag  
3240  
tgattcgccc accttggcct cccaaaatgc tgggggttaca ggcattgagcc actgcgctg  
3300  
gccccaaagt aataaatatt atcaaaacaa ttttactatg atccaagaac aacaacaaca  
3360  
aaaggaatga gatgggggga agactttttt tttaatctga aaagatttta cttaatcaaa  
3420  
ttgtgtaata gatttttcca ttccctagcc ctagtatttt tatagcaagg aactgccctt  
3480  
ctttttaag ccccaaaggt acgtatataa tacagtgagt ttgacagatg tacacaacag  
3540  
tgtaaccacc gcaatttgaa gctatttctt aatttgtctt gagatcacgg agcaataaga  
3600  
tagagattcc acttaagtcc ctggatatga taggggacaa tggttagaga gaagggtgac  
3660  
taaacgtaac ctgttaggag aacaaatgtc agcagctctc ccctcaatag tcaacctgat  
3720  
cagtctttgc aatcagagag agggaggctt ttgctgctag gccacactga gtacacagta  
3780  
ctaaaaccaa ggaaaaaat ataatcttag gtgaaagtaa tgtaacaaac aataaataat  
3840  
tgtgctcgtg ataggattat acttaggcca attctttttg ccttgaagtt gaaaggggcc  
3900  
tgctactctg ctaccgagag ctatcaagat atctaggcaa aaatattatg aaaaaacatt  
3960  
aacagcaagc taaattttga cataccgttc tctgctatcc aatttatacc agatttcata  
4020  
gctaccagcc acatgtggct acttaaattt aaatgaatta aaattaaata aaatttaaaa  
4080  
atcaatttct catttgcact agccaaatct caagcgctca atagctatat atgggtggta  
4140  
gctactatac tgaacagcac agatatagaa catgtccctc ctgcacaaag tgctattgga  
4200  
tagtgctgat atagacctat caacagctat caagtctgct agctaaactg gcaaattaag  
4260  
aagacatata aatataattc ttgaaaaag atgaccaggc aaaattataa tctcaagctg  
4320  
aaaacaaaaa aacatatggt tocaatttca aatagacttt tctgaacct gatttcaaac  
4380  
ctggatatca tttaaatttc tcaagtagtt taagaagtaa tctagcccat ttaattctat  
4440  
tcggaattaa attttatgga aaatgcaata cattagataa cacatctatc aaacttattt  
4500  
acttgagaaa aactcaagga aaaggagaga aatgaaatca acttagactg aatgtcagat  
4560  
gagtcttcca atccagtttt accagccaac tactttgttt tgatttcaat aaattttgca  
4620

tgagatgctt agtaagtcta gagtaataaa aattcttaaa gtgttggtga actcacctct  
 4680  
 aaatcagttc ctgccagagt tgc  
 4703

<210> 4352

<211> 86

<212> PRT

<213> Homo sapiens

<400> 4352

Ile	His	Thr	His	Thr	His	Thr	His	Thr	Asn	Thr	Ile	Phe	Phe	Leu	Lys
1				5					10					15	
Arg	Ser	Phe	Ala	Leu	Val	Ala	Gln	Ala	Gly	Val	Gln	Xaa	Leu	Gly	Ser
			20					25					30		
Leu	Gln	Pro	Pro	Pro	Pro	Gly	Phe	Glu	Leu	Phe	Ser	Cys	Leu	Ser	Phe
		35					40					45			
Gln	Ser	Ser	Trp	Gly	Tyr	Arg	His	Ser	Pro	Pro	Arg	Leu	Ala	Asn	Phe
	50					55					60				
Ser	Ile	Phe	Ser	Arg	Asp	Gly	Val	Ser	Pro	Cys	Trp	Pro	Gly	Trp	Ser
65					70					75					80
Gln	Thr	Pro	Asn	Leu	Lys										
						85									

<210> 4353

<211> 2471

<212> DNA

<213> Homo sapiens

<400> 4353

natggacttg gggctagctg cggcggggct ggaggaggcc agataaccat gtcagccaca  
 60  
 gttgtagatg cagttaatgc tgcaccctta tcgggggtcca aagaaatgag tttggaagaa  
 120  
 ccaaagaaga tgaccagaga ggactggaga aagaagaagg agctagaaga acagcgaaaa  
 180  
 ttgggcaatg ctctgcaga agttgatgaa gaaggaaaag acatcaaccc ccatattcct  
 240  
 cagtatatatt cttcagtgcc atgggtatatt gatccttcaa aaagacctac tttaaaacac  
 300  
 cagagaccac aaccagaaaa acaaaagcag ttcagctcat ctggagaatg gtacaagagg  
 360  
 ggtgtaaaag agaattccat aattactaag taccgcaaag gagcatgtga aaattgtggg  
 420  
 gccatgacac acaaaaagaa agactgcttt gagagaccta ggcgagttgg agccaaattt  
 480  
 acaggtaacta atatagctcc agatgaacat gtccagcctc aactgatgtt tgactatgat  
 540  
 gggaagaggg atcggtggaa tggctacaat ccagaagaac acatgaaaat tgttgaagag  
 600  
 tatgccaaag ttgatttggc aaaacgaaca ttgaaagccc agaaactcca agaggaatta  
 660  
 gcctcaggaa aattagtggg acaggctaatt tctccaaaac accagtgggg agaagaggaa  
 720

ccaaattctc agacggaaaa agatcataat agtgaagatg aggatgaaga taaatatgca  
780  
gatgatattg acatgcctgg acagaatttt gactccaaga gacgaattac tgtccggaat  
840  
ctcaggattc gagaagatat tgcaaaatat ttgaggaatt tagatccaaa ttctgcctac  
900  
tatgatccaa aaactagagc aatgagagag aatccttatg ccaatgcagg aaagaatcca  
960  
gatgaagtga gttatgctgg agataacttt gttaggtaca caggagatac catttcaatg  
1020  
gctcagacac agttgtttgc atgggaagcc tatgacaagg gatctgaagt gcatctacag  
1080  
gcagatccta caaagctaga gctgttgat aagtccttca aagtcaaaaa agaagatttc  
1140  
aaagaacagc agaaagaaag catcctggaa aagtatggtg gccagaaca ttggtatgcc  
1200  
cctccagctg aattgctttt agcccagact gaagactatg tggagtactc aagacatggg  
1260  
acagtcatca aaggacagga gcgggctgtt gcctgctcta agtatgagga ggatgtgaag  
1320  
atccacaatc acacacatat ctggggatcg tactggaaag aaggccgatg gggatacaaa  
1380  
tgctgtcact cttttttcaa gtattcctat tgtactggag aagctgggaa ggagattggt  
1440  
aactctgagg agtgtattat aaatgagata actggggaag aatctgtgaa aaaacctcaa  
1500  
accctcatgg agctgcatca agaaaaactg aaagaggaaa agaagaagaa gaaaaagaaa  
1560  
aagaagaagc atcgaaagag cagttcagat agtgatgatg aagaaaagaa gcatgaaaaa  
1620  
ttgaaaaagg cactgaacgc agaggaggcc cgccttcttc atgtcaagga gaccatgcag  
1680  
attgatgaga ggaagcggcc ttacaatagc atgtatgaaa ctcgagaacc tactgaagag  
1740  
gaaatggagg catatagaat gaaacgtcag aggccagatg accccatggc ctctttcctt  
1800  
ggacagtagc aactagtcag aagaccatcc aagatagatg cagctgatac attcttttca  
1860  
gcttcttatt gatgattgta gatagaaaaa tccttgttta ttcttcttgc tgcttggtt  
1920  
taataaatat ttcagatgcc tcacagtaag ttcactcctt tccatactga ggaaacaaga  
1980  
aaagaagaag aggacatga agtgtgcttt tgggaataga atttaaaatt ggattaagat  
2040  
tttatttcca gtttttttta tttatttatt ttttttgaga cggagtcttg ctctgtcgcc  
2100  
caggctgaag tgcggtggcg cgatctcggc tctactgcaag ctccacctcc caggttcacg  
2160  
ccattctcct gcctcagcct ccctagtagt tggggactac agggcgcccg ccaccatgct  
2220  
cagctaattt tttgtatttt tagtaggaga cggtttcatc gtgttagcca gggatgggtc  
2280  
cgatcttcct gaccttgtga tccaccgcgc ttcagcctcc caaagtgctg agattacagg  
2340

cgtgacaccc gcggcctggg cctnttttcc agtttttatg tgagtcacgt taaaaaaggc  
 2400  
 cttgggttct tctaaccat taaggatgtc tctttctcca atatttatat aaggtttcaa  
 2460  
 acttttatat t  
 2471

<210> 4354

<211> 586

<212> PRT

<213> Homo sapiens

<400> 4354

Met	Ser	Ala	Thr	Val	Val	Asp	Ala	Val	Asn	Ala	Ala	Pro	Leu	Ser	Gly	1	5	10	15
Ser	Lys	Glu	Met	Ser	Leu	Glu	Glu	Pro	Lys	Lys	Met	Thr	Arg	Glu	Asp	20	25	30	
Trp	Arg	Lys	Lys	Lys	Glu	Leu	Glu	Glu	Gln	Arg	Lys	Leu	Gly	Asn	Ala	35	40	45	
Pro	Ala	Glu	Val	Asp	Glu	Glu	Gly	Lys	Asp	Ile	Asn	Pro	His	Ile	Pro	50	55	60	
Gln	Tyr	Ile	Ser	Ser	Val	Pro	Trp	Tyr	Ile	Asp	Pro	Ser	Lys	Arg	Pro	65	70	75	80
Thr	Leu	Lys	His	Gln	Arg	Pro	Gln	Pro	Glu	Lys	Gln	Lys	Gln	Phe	Ser	85	90	95	
Ser	Ser	Gly	Glu	Trp	Tyr	Lys	Arg	Gly	Val	Lys	Glu	Asn	Ser	Ile	Ile	100	105	110	
Thr	Lys	Tyr	Arg	Lys	Gly	Ala	Cys	Glu	Asn	Cys	Gly	Ala	Met	Thr	His	115	120	125	
Lys	Lys	Lys	Asp	Cys	Phe	Glu	Arg	Pro	Arg	Arg	Val	Gly	Ala	Lys	Phe	130	135	140	
Thr	Gly	Thr	Asn	Ile	Ala	Pro	Asp	Glu	His	Val	Gln	Pro	Gln	Leu	Met	145	150	155	160
Phe	Asp	Tyr	Asp	Gly	Lys	Arg	Asp	Arg	Trp	Asn	Gly	Tyr	Asn	Pro	Glu	165	170	175	
Glu	His	Met	Lys	Ile	Val	Glu	Glu	Tyr	Ala	Lys	Val	Asp	Leu	Ala	Lys	180	185	190	
Arg	Thr	Leu	Lys	Ala	Gln	Lys	Leu	Gln	Glu	Glu	Leu	Ala	Ser	Gly	Lys	195	200	205	
Leu	Val	Glu	Gln	Ala	Asn	Ser	Pro	Lys	His	Gln	Trp	Gly	Glu	Glu	Glu	210	215	220	
Pro	Asn	Ser	Gln	Thr	Glu	Lys	Asp	His	Asn	Ser	Glu	Asp	Glu	Asp	Glu	225	230	235	240
Asp	Lys	Tyr	Ala	Asp	Asp	Ile	Asp	Met	Pro	Gly	Gln	Asn	Phe	Asp	Ser	245	250	255	
Lys	Arg	Arg	Ile	Thr	Val	Arg	Asn	Leu	Arg	Ile	Arg	Glu	Asp	Ile	Ala	260	265	270	
Lys	Tyr	Leu	Arg	Asn	Leu	Asp	Pro	Asn	Ser	Ala	Tyr	Tyr	Asp	Pro	Lys	275	280	285	
Thr	Arg	Ala	Met	Arg	Glu	Asn	Pro	Tyr	Ala	Asn	Ala	Gly	Lys	Asn	Pro	290	295	300	
Asp	Glu	Val	Ser	Tyr	Ala	Gly	Asp	Asn	Phe	Val	Arg	Tyr	Thr	Gly	Asp	305	310	315	320
Thr	Ile	Ser	Met	Ala	Gln	Thr	Gln	Leu	Phe	Ala	Trp	Glu	Ala	Tyr	Asp				

325 330 335  
 Lys Gly Ser Glu Val His Leu Gln Ala Asp Pro Thr Lys Leu Glu Leu  
 340 345 350  
 Leu Tyr Lys Ser Phe Lys Val Lys Lys Glu Asp Phe Lys Glu Gln Gln  
 355 360 365  
 Lys Glu Ser Ile Leu Glu Lys Tyr Gly Gly Gln Glu His Leu Asp Ala  
 370 375 380  
 Pro Pro Ala Glu Leu Leu Leu Ala Gln Thr Glu Asp Tyr Val Glu Tyr  
 385 390 395 400  
 Ser Arg His Gly Thr Val Ile Lys Gly Gln Glu Arg Ala Val Ala Cys  
 405 410 415  
 Ser Lys Tyr Glu Glu Asp Val Lys Ile His Asn His Thr His Ile Trp  
 420 425 430  
 Gly Ser Tyr Trp Lys Glu Gly Arg Trp Gly Tyr Lys Cys Cys His Ser  
 435 440 445  
 Phe Phe Lys Tyr Ser Tyr Cys Thr Gly Glu Ala Gly Lys Glu Ile Val  
 450 455 460  
 Asn Ser Glu Glu Cys Ile Ile Asn Glu Ile Thr Gly Glu Glu Ser Val  
 465 470 475 480  
 Lys Lys Pro Gln Thr Leu Met Glu Leu His Gln Glu Lys Leu Lys Glu  
 485 490 495  
 Glu Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys His Arg Lys Ser Ser  
 500 505 510  
 Ser Asp Ser Asp Asp Glu Glu Lys Lys His Glu Lys Leu Lys Lys Ala  
 515 520 525  
 Leu Asn Ala Glu Glu Ala Arg Leu Leu His Val Lys Glu Thr Met Gln  
 530 535 540  
 Ile Asp Glu Arg Lys Arg Pro Tyr Asn Ser Met Tyr Glu Thr Arg Glu  
 545 550 555 560  
 Pro Thr Glu Glu Glu Met Glu Ala Tyr Arg Met Lys Arg Gln Arg Pro  
 565 570 575  
 Asp Asp Pro Met Ala Ser Phe Leu Gly Gln  
 580 585

&lt;210&gt; 4355

&lt;211&gt; 1741

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4355

nggccggtag ctgttgctgt tgggggaccc cctcattcct gccgctgccg tccctgctgc  
 60  
 ctcatggcgg ccatcggagt tcacctgggc tgcacctcag cctgtgtggc cgtctataag  
 120  
 gatggccggg ctggtgtggt tgcaaatgat gccggtgacc gagttactcc agctgttggt  
 180  
 gcttactcag aaaatgaaga gattgttgga ttggcagcaa aacaaagtag aataagaaat  
 240  
 atttcaaata cagtaatgaa agtaaagcag atcctgggca gaagctccag tgatccacaa  
 300  
 gctcagaaat acatcgcgga aagtaaatgt ttagtcattg aaaaaaatgg gaaattacga  
 360  
 tatgaaatag atactggaga agaaacaaaa tttgttaacc cagaagatgt tgccagactg  
 420



atatttagta aaatgaaaga aacggcacat tctgtattgg gctcagatgc aaatgatgta  
480  
gttattactg tcccgtttga ttttgagaaa aagcaaaaaa atgcccttgg agaagcagct  
540  
agagctgctg gatttaaatgt tttgcgatta attcacgaac cgtctgcagc tcttcttgct  
600  
tatggaattg gacaagactc ccctactgga aaaagcaata ttttggtgtt taagcttgga  
660  
ggaacatcct tatctctcag cgtcatggaa gttaacagtg gaatatatcg ggttctttca  
720  
acaaacactg atgataacat cggtggtgca catttcacag aaaccttagc acagtatcta  
780  
gcttctgagt tccaaagatc cttcaaacat gatgtgagag gaaatgcgcg agccatgatg  
840  
aaattaacga acagtgctga agtagcgaaa cattctttgt caaccttggg aagtgcgaac  
900  
tgttttcttg actcattata tgaagggtcaa gattttgatt gcaatgtgtc cagagcaaga  
960  
tttgaacttc tttgttctcc actttttaat aagtgtatag aagcaatcag aggactctta  
1020  
gatcaaaatg gatttacagc agatgatatc aacaagggtg tcctttgtgg agggctcttc  
1080  
cgaatcccaa agctacagca actgattaaa gatcttttcc cagctgttga gcttctcaat  
1140  
tctatccctc ctgatgaagt gatccctatt ggtgcagcta tagaagcagg aattcttatt  
1200  
gggaaagaaa acctgttggt ggaagactct cttatgatag agtggtcagc cagagatatt  
1260  
ttagttaagg gtgtggacga atcaggagcc agtagattca cagtgtgtt tccatcaggg  
1320  
actcctttgc cagctcgaag acaacacaca ttgcaagccc ctggaagcat atcttcagt  
1380  
tgccttgaac tctatgagtc tgatgggaag aactctgcca aagaggaaac caagtttgca  
1440  
caggttgtag tccaggattt agataaaaaa gaaaatggat tacgtgatat attagctgtt  
1500  
cttactatga aaagggatgg atctttacat gtgacatgca cagatcaaga aactggaaaa  
1560  
tgtgaagcaa tctctattga gatagcatct tagtgtttta gagaaatcaa gaatttttaa  
1620  
aaacaagaat atcaacattt ggttttgtgt ataagtgggtg tttgtattaa aatactttt  
1680  
caatgaactg tataaactat gttttattaa actacaatat atcagtaaaa aaaaaaaaaa  
1740  
a  
1741

&lt;210&gt; 4356

&lt;211&gt; 509

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4356

Met Ala Ala Ile Gly Val His Leu Gly Cys Thr Ser Ala Cys Val Ala

**3550.**

```
<210> 4357
<211> 421
<212> DNA
<213> Homo sapiens
```

```
<210> 4358
<211> 115
<212> PRT
<213> Homo sapiens
```

3551

115

&lt;210&gt; 4359

&lt;211&gt; 3661

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4359

ncggccgagg gggcatcatg aagcgggctg gcggcgctgc gtcccgggcg gccgcgggcg  
60  
ggaggtgctt cccaaggacc gtagatgcct ctctagagca tgagctcagg caagagtgcc  
120  
cgctacaacc gcttctccgg ggggcccagc aatcttccca cccagacgt caccacaggg  
180  
accagaatgg aaacgacctt cggaccgcgc ttttcagccg tcaccaccat cacaaaagct  
240  
gacgggacca gcacctaca gcagcactgc aggacacct cctcctccag cacccttgcc  
300  
tactccccgc gggacgagga ggacagcatg ccccccata gcactccccg ccgctccgac  
360  
tcgcccatt ctgtccgctc cctgcactca gaggccagca tgtctctgcg ctccacattc  
420  
tactgcccg aggaggagga ggagccggag ccaactggtgt ttgaggagca gccctcggtg  
480  
aagctgtgct gtcagctctg ctgcagcgtc ttcaaagacc ccgtgatcac cagctgtggg  
540  
cacacgttct gtaggagatg cgccttgaag tcagagaagt gtcccgtgga caacgtcaaa  
600  
ctgaccgtgg tggatgaaca catcgcggtg gccgagcaga tcggggagct cttcatccac  
660  
tgccggcacg gctgccgggt agcgggcagc gggaagcccc ccatctttga ggtggacccc  
720  
cgaggggtgcc ccttcacat caagctcagc gcccggaagg accacgaggg cagctgtgac  
780  
tacaggcctg tgcggtgtcc caacaacccc agctgcccc cgtgtctcag gatgaacctg  
840  
gaggccacc tcaaggagtg cgagcacatc aaatgcccc actccaagta cgggtgcaca  
900  
tttattggga atcaggacac ctatgagaca cacttagaaa catgccgctt cgagggcctg  
960  
aaggagtttc tgcagcagac ggatgaccgc ttccacgaga tgcattgtggc tctggcccag  
1020  
aaggaccagg agatcgctt cctgcgctcc atgctgggaa agctctcgga gaagatcgac  
1080  
cagctagaga agagcctgga gctcaagttt gacgtcctgg acgaaaacca gagcaagctc  
1140  
agcgaggacc tcatggagtt ccggcgggac gcatccatgt taaatgacga gctgtcccac  
1200  
atcaacgcgc ggctgaacat gggcatccta ggctcctacg accctcagca gatcttcaag  
1260  
tgcaaaggga cttttgtggg ccaccagggc cctgtgtggt gtctctgcgt ctactccatg  
1320  
ggtgacctgc tcttcagtgg ctctctgac aagaccatca aggtgtggga cacatgtacc  
1380

acctacaagt gtcagaagac actggagggc catgatggca tcgtgctggc tctctgcatc  
1440  
caggggtgca aactctacag cggctctgca gactgcacca tcattgtgtg ggacatccag  
1500  
aacctgcaga aggtgaacac catccggggc catgacaacc cgggtgtgcac gctgggtctcc  
1560  
tcacacaacg tgctcttcag cggctccctg aaggccatca aggtctggga catcgtgggc  
1620  
actgagctga agttgaagaa ggagctcaca ggccctcaacc actgggtgcg ggccctgggtg  
1680  
gctgcccaga gctacctgta cagcggctcc taccagacaa tcaagatctg ggacatccga  
1740  
acccttgact gcatccacgt cctgcagacg tctgggtggca gcgtctactc cattgctgtg  
1800  
acaaatcacc acattgtctg tggcacctac gagaacctca tccacgtgtg ggacattgag  
1860  
tccaaggagc aggtgcgga cctcacgggc cacgtgggca ccgtgtatgc cctggcggtc  
1920  
atctcgacgc cagaccagac caaagtcttc agtgcacctc acgaccggtc cctcagggtc  
1980  
tggagtatgg acaacatgat ctgcacgcag accctgctgc gtcaccaggg cagtgtcacc  
2040  
gcgtggctg tgtcccgagg ccgactcttc tcaggggctg tggatagcac tgtgaagggt  
2100  
tggacttgct aacaggatcc aggcagggt gtgggtttccc ctgaaccagc cctggacctt  
2160  
tctgagccag gctggccaca tgggggtggtc tcgggggtttc tgcctgcccc gtgggcatag  
2220  
gtggacaggc tctggcagcc gggcagtgcc ctccccgtcc catgctcggc gagcctccct  
2280  
ctactcggca ctgtccttgc tgcccagccc ctctctgggt gccaggtagc acgcttgccc  
2340  
cggcccaccc tccatcccca cctccatcc ccaccctaga tggagcgagg gcctttttac  
2400  
tcaccttttc taccgttttt agactgtatg tagatttggt tacctcctgg ttgaaataaa  
2460  
tgctccacag actgtggctg tgagtgggga cagctcctcg ggacaagggg gctgtgtgtg  
2520  
gccttgagggt tgggtgtgcac aggcactggc tgctgtgagt gggggggcat ggggcagttt  
2580  
cctttgggtg accccaggac ttcggccac tccggggcct cccctccctg ctaggaggca  
2640  
actcgtcaca cccaagctgc tggcctccag tcccatctcc cccaacacat gtgcccccaa  
2700  
aaagttagcc aggcacctct gtttcctgct gtttattgac agccgacgga ggccttgcc  
2760  
cagacctccc ctgcccacct gctggagccc agcctgtgac gccctctgag gagaggcctg  
2820  
gggggacagc tgggcacgtc cactcgcagg gaaacacggg gtgagacagc aggaaggggc  
2880  
cctgcacgcc gggacgccac ctccgccagc cgctccacc cggccacac cacaatcgct  
2940  
ggttttcggc attttttaaa tttttttttt aagaaacgtc aaagtgtgtg ccaacactgt  
3000

ggatcagcaa acacgataga ggagaccagt cagtacttct tggagggggc aggaggagag  
 3060  
 aggaaaaggg agggcgagaa tgaccacaca acacagcctt ggaccatgag cagaagcgtc  
 3120  
 cgtgggaact ccactggggt ggatgggctg cctgcacagc ccctggagag ggggccaggc  
 3180  
 acaccctcag aggagctgca agcccgtggc ctggcctgct acatgccctg cttccacgtg  
 3240  
 gctgccacgc tgacacaccc acattcacca aaccaccccg cgccctggga cgcagccacg  
 3300  
 ccaggaggag gacacggccg ccgagagcaa ggcacaacct cgagttcttg gggcgagag  
 3360  
 aacttaggag agaagcacgg aggagcccc ggcagagcac ccgcccccg gccccagcct  
 3420  
 tccacctgtg ctagcagcct ggggcctcca ctctggccgg aggaaggacc gcaggcagac  
 3480  
 agcctgggcc tctaacagct tttgtccgga gctagacttc gtgtcctttc agttggtaaa  
 3540  
 tggttttcta tagaatcaat aatatttctt tcttttaata tatatttggt aaagttatac  
 3600  
 cttttgttt ctctggggaa atccgcctca gctcattccc aataaattaa tactcttgaa  
 3660  
 a  
 3661

<210> 4360  
 <211> 670  
 <212> PRT  
 <213> Homo sapiens

<400> 4360  
 Met Ser Ser Gly Lys Ser Ala Arg Tyr Asn Arg Phe Ser Gly Gly Pro  
 1 5 10 15  
 Ser Asn Leu Pro Thr Pro Asp Val Thr Thr Gly Thr Arg Met Glu Thr  
 20 25 30  
 Thr Phe Gly Pro Ala Phe Ser Ala Val Thr Thr Ile Thr Lys Ala Asp  
 35 40 45  
 Gly Thr Ser Thr Tyr Lys Gln His Cys Arg Thr Pro Ser Ser Ser Ser  
 50 55 60  
 Thr Leu Ala Tyr Ser Pro Arg Asp Glu Glu Asp Ser Met Pro Pro Ile  
 65 70 75 80  
 Ser Thr Pro Arg Arg Ser Asp Ser Ala Ile Ser Val Arg Ser Leu His  
 85 90 95  
 Ser Glu Ser Ser Met Ser Leu Arg Ser Thr Phe Ser Leu Pro Glu Glu  
 100 105 110  
 Glu Glu Glu Pro Glu Pro Leu Val Phe Ala Glu Gln Pro Ser Val Lys  
 115 120 125  
 Leu Cys Cys Gln Leu Cys Cys Ser Val Phe Lys Asp Pro Val Ile Thr  
 130 135 140  
 Thr Cys Gly His Thr Phe Cys Arg Arg Cys Ala Leu Lys Ser Glu Lys  
 145 150 155 160  
 Cys Pro Val Asp Asn Val Lys Leu Thr Val Val Val Asn Asn Ile Ala  
 165 170 175  
 Val Ala Glu Gln Ile Gly Glu Leu Phe Ile His Cys Arg His Gly Cys

3555

610	615	620
Leu Arg Val Trp Ser Met Asp Asn Met Ile Cys Thr Gln Thr Leu Leu		
625	630	635
Arg His Gln Gly Ser Val Thr Ala Leu Ala Val Ser Arg Gly Arg Leu		640
	645	650
Phe Ser Gly Ala Val Asp Ser Thr Val Lys Val Trp Thr Cys		655
660	665	670

<210> 4361  
 <211> 574  
 <212> DNA  
 <213> Homo sapiens

<400> 4361  
 nggatccaga acccattgct atcaggctgt acagccttca atcacaacgg gaacctgctg  
 60  
 gtcacagggg cagctgatgg cgctcatccgg ctgtttgaca tgcagcagca tgagtgcgcg  
 120  
 atgagctgga gggcccacta cggggagggt tactctgtgg agttcagcta tgatgagaac  
 180  
 accgtgtaca gcatcggcga ggacgggaag gtaggcgggt ccaggattca gataagagag  
 240  
 caccgggatg acatgtgggc cggtgcagg ttgtggccat acctgttact agctctgcaa  
 300  
 cctggggcct ctttttgcag ctttgttatt tgtagaatag ggataaacta gtaattcgtc  
 360  
 ttacaatcct tgcgaggttt tagtgaattc agtgggagtt ggctatcctt atgaaaggaa  
 420  
 gtacacaaaa ttactcatct taccatagat gtatctgtgg ggtctggatt tagggctgag  
 480  
 tttgctttgc tgggcttggt agtgagtggg cccaggacca ctcattgatg tgtagtttgc  
 540  
 tgagtggctg gggacagctt cttacatgtg taca  
 574

<210> 4362  
 <211> 116  
 <212> PRT  
 <213> Homo sapiens

<400> 4362  
 Xaa Ile Gln Asn Pro Leu Leu Ser Gly Cys Thr Ala Phe Asn His Asn  
 1 5 10 15  
 Gly Asn Leu Leu Val Thr Gly Ala Ala Asp Gly Val Ile Arg Leu Phe  
 20 25 30  
 Asp Met Gln Gln His Glu Cys Ala Met Ser Trp Arg Ala His Tyr Gly  
 35 40 45  
 Glu Val Tyr Ser Val Glu Phe Ser Tyr Asp Glu Asn Thr Val Tyr Ser  
 50 55 60  
 Ile Gly Glu Asp Gly Lys Val Gly Gly Ser Arg Ile Gln Ile Arg Glu  
 65 70 75 80  
 His Arg Asp Asp Met Trp Ala Gly Cys Arg Leu Trp Pro Tyr Leu Leu  
 85 90 95  
 Leu Ala Leu Gln Pro Gly Ala Ser Phe Cys Ser Phe Val Ile Cys Arg



100  
 Ile Gly Ile Asn  
 115

105  
 110

<210> 4363  
 <211> 1222  
 <212> DNA  
 <213> Homo sapiens

<400> 4363  
 tttttttttt tttttttttt tttttttttt tttttttttt tttttgagat ttcccaggac  
 60  
 tggctttaat ttgaaaaatc tgattggggg ctcttcccgt atcagagaag gaacagccca  
 120  
 agctatgacc ccaggggccag ggaattcagt ccccaccaga ccctgtcatt ccatcactag  
 180  
 ggggtaattc caggctcccc ctgccagccc tgagacagga ggacggatgt gaagttgccc  
 240  
 aggactagat tctgtctctc caaagtggcc caagccctgt tctctgtact aggggaagcca  
 300  
 gctgtgtctt ttcgaggaca gttgggtccag ccagcaggct cagttcagat accagacaac  
 360  
 cattccagca cgaggggtca gcgccctggc cccggcggtc gctccagtgc ctgtgtgccc  
 420  
 accagcacat ccatgaggta gtccaattcg gcctcgtcca gctccggagc ttcctccttg  
 480  
 cccggcccat cctcagggcc tggtttgagg ccctcagagg ctggtgccc aagttcattg  
 540  
 tcatacatag aggtgtcaat atcctcaaac aggccctcga gccatcgtc cagtagacag  
 600  
 ccagtggctg ggcccagcag gtccaaggca cccaggctgg gcgctgctcc cccgatgcta  
 660  
 cggcctgggt gccctcgtc tgccaagggt tggggagcct gactcaggcc ctcaatgtgg  
 720  
 ctgaggtcct ccaggaggct ggccatggag gctgaaaggg cagcgtccga gcttgccagt  
 780  
 aagttgtcag ccacactggg ggctgcaggt gggctaggca cagggtggcag ggcagccgcg  
 840  
 ggtgccatgg acgcnntgg atgcgccgca gagtgttcac gaccagcacc aggtgccgca  
 900  
 ggtccggctc actctgctgc aggctgtggt nggagcttga gactgagag gtcaaagagg  
 960  
 gagctagagg ccacggccgg gggtgctgt gccaccgctg cgtggccagg atctagccac  
 1020  
 caggagtcga ctgccagagg ttccttctcc tctcctcct cccgtttccg cttcagaccc  
 1080  
 ttgctcagca tcttgtctac tagcggccaa tcagaacgaa gaggtagcca cccacaacca  
 1140  
 atcaggaaac ggcggcggca gcatcgcttg ttggctgtcc tccggaaacc cgcgcctggg  
 1200  
 tcgcgagacg cagttctagc ga  
 1222

<210> 4364

<211> 75  
 <212> PRT  
 <213> Homo sapiens

<400> 4364  
 Asp Arg Arg Thr Asp Val Lys Leu Pro Arg Thr Arg Phe Cys Leu Ser  
 1 5 10 15  
 Lys Val Ala Gln Ala Leu Phe Ser Val Leu Gly Lys Pro Ala Val Ser  
 20 25 30  
 Phe Arg Gly Gln Leu Val Gln Pro Ala Gly Ser Val Gln Ile Pro Asp  
 35 40 45  
 Asn His Ser Ser Thr Arg Ala Gln Arg Pro Gly Pro Gly Gly Arg Ser  
 50 55 60  
 Ser Ala Cys Val Pro Thr Ser Thr Ser Met Arg  
 65 70 75

<210> 4365  
 <211> 469  
 <212> DNA  
 <213> Homo sapiens

<400> 4365  
 gacgtgctcg atggcaaggt cgcaccgggc aagaacgtgc cggctctacga caccatctgc  
 60  
 gagttcaccg gcatgtcggg cgcgcgacttc ctcgctgaca agggcagcca ggttgagatc  
 120  
 gtcaccgacg acatcaagcc ggggtgtggcg attggcggtta cgtcgttccc gacctactac  
 180  
 cgcagcatgt acccgaaaga agtgatcatg accggcgaca tgatgctgga aaaggtctat  
 240  
 cgcgagggcg acaagctggg ggcgggtgctg gagaacgaat acaccggcgc caaggaagag  
 300  
 cgggtgggtcg accaggtggg ggtggagaac ggtgtgctgc cggatgagga aatctactac  
 360  
 gggctcaagg aagggttcgcg caacaagggc cagatcgatg tcgaagccct gttcgcgatc  
 420  
 aagccgcagc cttecgctgaa tactettaat gaagaggcag cgggtgacg  
 469

<210> 4366  
 <211> 156  
 <212> PRT  
 <213> Homo sapiens

<400> 4366  
 Asp Val Leu Asp Gly Lys Val Ala Pro Gly Lys Asn Val Pro Val Tyr  
 1 5 10 15  
 Asp Thr Ile Cys Glu Phe Thr Gly Met Ser Val Ala Asp Phe Leu Ala  
 20 25 30  
 Asp Lys Gly Ser Gln Val Glu Ile Val Thr Asp Asp Ile Lys Pro Gly  
 35 40 45  
 Val Ala Ile Gly Gly Thr Ser Phe Pro Thr Tyr Tyr Arg Ser Met Tyr  
 50 55 60  
 Pro Lys Glu Val Ile Met Thr Gly Asp Met Met Leu Glu Lys Val Tyr

65		70		75		80									
Arg	Glu	Gly	Asp	Lys	Leu	Val	Ala	Val	Leu	Glu	Asn	Glu	Tyr	Thr	Gly
				85					90					95	
Ala	Lys	Glu	Glu	Arg	Val	Val	Asp	Gln	Val	Val	Val	Glu	Asn	Gly	Val
			100					105					110		
Arg	Pro	Asp	Glu	Glu	Ile	Tyr	Tyr	Gly	Leu	Lys	Glu	Gly	Ser	Arg	Asn
		115					120					125			
Lys	Gly	Gln	Ile	Asp	Val	Glu	Ala	Leu	Phe	Ala	Ile	Lys	Pro	Gln	Pro
	130					135					140				
Ser	Leu	Asn	Thr	Leu	Asn	Glu	Ala	Ala	Gly	Asp					
145					150					155					

<210> 4367  
 <211> 852  
 <212> DNA  
 <213> Homo sapiens

<400> 4367  
 nncctaggca ggggggatggc cctgcgtgac tgcaccagaa ggaaggagct ggggccggct  
 60  
 ggccttttgc aggtggaatt tccagaggcc cggatcttcg aggagaccct gaacatcctc  
 120  
 atctacgaga ctccccgggg cccagacca gccctcctgg aggccacagg gggagcagct  
 180  
 ggagctggtg gggctggccg cggggaggat gaagagaacc gagagcaccg tgtccgcagg  
 240  
 atccatgtcc ggcgccatat caccacgac gagegtcctc atggccaaca aattgtcttc  
 300  
 aaggactgac ctctgaccct cccctgcct tcctcttgcc ttgggacca gtcctctctc  
 360  
 ctttccctcc ccttcccaga cttttgcccc ggctctgctg gccaaagtcgt gggctcctcc  
 420  
 ctgtcccttc attgcatggc acagctcact ttggcccttc tccaccgctc ccaaccccat  
 480  
 tgctaacaac atggtacatt ccggccccac cactcagagc cttccgaagc caacacttgt  
 540  
 cccaccctg gccctgcgtc cttccctctc cagctgggta agagggattt agaattccct  
 600  
 ttctcttttt ttagtgcac gtccatgcca aagtgtgcgg cccttccctga catcaccaca  
 660  
 gtctgagcag cctcccgct cctgcagggt agtcgcgcc ctcctcccca ccatcctccc  
 720  
 tacctcctta actttgtact agactggcct gggcctgccc agctcagcgt tatcagctctg  
 780  
 tttcatatta ttattatatt taattttcta ttaaattatt gaaataaagt taagttgaga  
 840  
 aactaaaaaa aa  
 852

<210> 4368  
 <211> 102  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 4368

Xaa Leu Gly Arg Gly Met Ala Leu Arg Asp Cys Thr Arg Arg Lys Glu  
 1 5 10 15  
 Leu Gly Pro Ala Gly Leu Leu Gln Val Glu Phe Pro Glu Ala Arg Ile  
 20 25 30  
 Phe Glu Glu Thr Leu Asn Ile Leu Ile Tyr Glu Thr Pro Arg Gly Pro  
 35 40 45  
 Asp Pro Ala Leu Leu Glu Ala Thr Gly Gly Ala Ala Gly Ala Gly Gly  
 50 55 60  
 Ala Gly Arg Gly Glu Asp Glu Glu Asn Arg Glu His Arg Val Arg Arg  
 65 70 75 80  
 Ile His Val Arg Arg His Ile Thr His Asp Glu Arg Pro His Gly Gln  
 85 90 95  
 Gln Ile Val Phe Lys Asp  
 100

&lt;210&gt; 4369

&lt;211&gt; 1264

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4369

gctcagctgg ccaaccctga aatccccctg ggcagtgag agcagttcct cctcaccctg  
 60  
 tcctccatca gcgagctctc tgcacgactt cacctctggg cattcaaaat ggattatgaa  
 120  
 actacagaaa aggaagtagc agaaccactc ctggacctga aggaaggaat agaccagttg  
 180  
 gagaacaata aaaccttggg ctttatcctg tctactctct tagccattgg gaactttcta  
 240  
 aatggaacta atgccaaagc gtttgagtta agctacctcg agaagggtcc agaagtcaaa  
 300  
 gacacagtgc acaagcagtc gcttctccac catgtgtgca ccatggtggt agaaaacttc  
 360  
 ccagacagct ccgatctgta ctgggagatc ggggccatca ccaggtcagc caagggtgac  
 420  
 ttgtatcaac ttcaggataa tttatgtcag atggagagaa gatgcaaagc ttcattgggat  
 480  
 cacctcaagg caattgcaaa acatgaaatg aaaccagttt taaaacaacg gatgtcagag  
 540  
 ttctgaaag actgtgcaga gcgaattata attttaaaga ttgtccatag aaggataatc  
 600  
 aacagattcc actccttttt actcctttatg ggccatccac cttatgcaat tcgggaagtg  
 660  
 aacataaaca aattctgcag gattattagt gaatttgcac tagagtatcg cacaaccagg  
 720  
 gaaagggttt tgcagcagaa acagaaacgg gcccaaccaca gagagagaaa taagaccaga  
 780  
 ggaagatga tcaccgattc tggcaagttc tccggcagtt ctccggcgcc cccaagccag  
 840  
 ccgagggtc tgagctatgc ggaggacgag gctgagcacg agaacatgaa ggctgtgctg  
 900  
 aaaacctcgt cccctccag gaggccccctg cacatacctt ctccatcgtg tcagctgtgt  
 960

ttctcttgat tccgtgacac ccggtttatt agttcaaaag tgtgacacct tttctgggca  
 1020  
 aggaacagcc cctttaagga gcaaactact tctgtcacag ttattatggg aatatgaggc  
 1080  
 aatctgatta gcttcacaga ctgagtctcc acaacaccaa aatatccaga tgtaaaccac  
 1140  
 aaacttgtag acaaaagaaa gcacagattg tttacctgtt gtggatttta gatgtaacaa  
 1200  
 atgtttatac aaatacatat atgtacacca tgtttcaaact actaaataaa tagagtttaa  
 1260  
 tgcc  
 1264

<210> 4370  
 <211> 322  
 <212> PRT  
 <213> Homo sapiens

<400> 4370  
 Ala Gln Leu Ala Asn Pro Glu Ile Pro Leu Gly Ser Ala Glu Gln Phe  
 1 5 10 15  
 Leu Leu Thr Leu Ser Ser Ile Ser Glu Leu Ser Ala Arg Leu His Leu  
 20 25 30  
 Trp Ala Phe Lys Met Asp Tyr Glu Thr Thr Glu Lys Glu Val Ala Glu  
 35 40 45  
 Pro Leu Leu Asp Leu Lys Glu Gly Ile Asp Gln Leu Glu Asn Asn Lys  
 50 55 60  
 Thr Leu Gly Phe Ile Leu Ser Thr Leu Leu Ala Ile Gly Asn Phe Leu  
 65 70 75 80  
 Asn Gly Thr Asn Ala Lys Ala Phe Glu Leu Ser Tyr Leu Glu Lys Val  
 85 90 95  
 Pro Glu Val Lys Asp Thr Val His Lys Gln Ser Leu Leu His His Val  
 100 105 110  
 Cys Thr Met Val Val Glu Asn Phe Pro Asp Ser Ser Asp Leu Tyr Ser  
 115 120 125  
 Glu Ile Gly Ala Ile Thr Arg Ser Ala Lys Val Asp Phe Asp Gln Leu  
 130 135 140  
 Gln Asp Asn Leu Cys Gln Met Glu Arg Arg Cys Lys Ala Ser Trp Asp  
 145 150 155 160  
 His Leu Lys Ala Ile Ala Lys His Glu Met Lys Pro Val Leu Lys Gln  
 165 170 175  
 Arg Met Ser Glu Phe Leu Lys Asp Cys Ala Glu Arg Ile Ile Ile Leu  
 180 185 190  
 Lys Ile Val His Arg Arg Ile Ile Asn Arg Phe His Ser Phe Leu Leu  
 195 200 205  
 Phe Met Gly His Pro Pro Tyr Ala Ile Arg Glu Val Asn Ile Asn Lys  
 210 215 220  
 Phe Cys Arg Ile Ile Ser Glu Phe Ala Leu Glu Tyr Arg Thr Thr Arg  
 225 230 235 240  
 Glu Arg Val Leu Gln Lys Gln Lys Arg Ala Asn His Arg Glu Arg  
 245 250 255  
 Asn Lys Thr Arg Gly Lys Met Ile Thr Asp Ser Gly Lys Phe Ser Gly  
 260 265 270  
 Ser Ser Pro Ala Pro Pro Ser Gln Pro Gln Gly Leu Ser Tyr Ala Glu

	275		280		285										
Asp	Ala	Ala	Glu	His	Glu	Asn	Met	Lys	Ala	Val	Leu	Lys	Thr	Ser	Ser
	290				295						300				
Pro	Ser	Arg	Ser	Pro	Leu	His	Ile	Pro	Ser	Pro	Ser	Cys	Gln	Leu	Cys
305					310					315					320
Phe	Ser														

<210> 4371  
 <211> 907  
 <212> DNA  
 <213> Homo sapiens

<400> 4371  
 acttttcaaaa tggcggagtg tggagcgagc ggcagcggga gcagcgggga cagtctggac  
 60  
 aagagcatca cgctgcccc cgacgagatc ttccgcaacc tggagaacgc caagcgcttc  
 120  
 gccatcgaca taggcgggtc gttaaccaag ctggcctact attcaacggt acagcacaaa  
 180  
 gtcgccaagg tgcggtcttt cgaccactcc ggaaaggaca cagaacgtga acatgagccg  
 240  
 ccctatgaga tttcagttca agaagagatc actgctcgac tgcacttcat taagtttgag  
 300  
 aatacctaca tcgaagcctg cctggacttc atcaaagacc atctcgtcaa cacagagacc  
 360  
 aaggatcatcc aggcgaccgg gggcggggcc tacaagttca aggacctcat cgaagagaag  
 420  
 ctgcggctga aagtcgacaa ggaggacgtg atgacgtgcc tgattaaggg gtgcaacttc  
 480  
 gtgctcaaga acatccccca tgaggccttc gtgtaccaga aggattccga ccctgagttc  
 540  
 cggttccaga ccaaccaccc ccacattttc ccctatcttc ttgtcaatat cggctctgga  
 600  
 gtctccatcg tgaagggtga gacggaggac aggttcgagt gggtcggcgg cagctccatt  
 660  
 ggaggcggca ccttctgggg gcttggcgct ctgctcacca aaacgaagaa gtttgacgag  
 720  
 ctcttcgacc tggcctcgag gggccagcac agcaatgtgg acatgctggt gcgggacgtc  
 780  
 tacggcggcg cccaccagac tctcgggctg agcgggaacc tcatcgccag cagcttcggg  
 840  
 aagtcggcca ccgccgacca agagttctcc aaagaagaca tggcgaagag cctgctgcac  
 900  
 atgatca  
 907

<210> 4372  
 <211> 302  
 <212> PRT  
 <213> Homo sapiens

<400> 4372  
 Thr Phe Lys Met Ala Glu Cys Gly Ala Ser Gly Ser Gly Ser Ser Gly

```

      1           5           10           15
Asp Ser Leu Asp Lys Ser Ile Thr Leu Pro Pro Asp Glu Ile Phe Arg
      20           25           30
Asn Leu Glu Asn Ala Lys Arg Phe Ala Ile Asp Ile Gly Gly Ser Leu
      35           40           45
Thr Lys Leu Ala Tyr Tyr Ser Thr Val Gln His Lys Val Ala Lys Val
      50           55           60
Arg Ser Phe Asp His Ser Gly Lys Asp Thr Glu Arg Glu His Glu Pro
      65           70           75           80
Pro Tyr Glu Ile Ser Val Gln Glu Glu Ile Thr Ala Arg Leu His Phe
      85           90           95
Ile Lys Phe Glu Asn Thr Tyr Ile Glu Ala Cys Leu Asp Phe Ile Lys
      100          105          110
Asp His Leu Val Asn Thr Glu Thr Lys Val Ile Gln Ala Thr Gly Gly
      115          120          125
Gly Ala Tyr Lys Phe Lys Asp Leu Ile Glu Glu Lys Leu Arg Leu Lys
      130          135          140
Val Asp Lys Glu Asp Val Met Thr Cys Leu Ile Lys Gly Cys Asn Phe
      145          150          155          160
Val Leu Lys Asn Ile Pro His Glu Ala Phe Val Tyr Gln Lys Asp Ser
      165          170          175
Asp Pro Glu Phe Arg Phe Gln Thr Asn His Pro His Ile Phe Pro Tyr
      180          185          190
Leu Leu Val Asn Ile Gly Ser Gly Val Ser Ile Val Lys Val Glu Thr
      195          200          205
Glu Asp Arg Phe Glu Trp Val Gly Gly Ser Ser Ile Gly Gly Gly Thr
      210          215          220
Phe Trp Gly Leu Gly Ala Leu Leu Thr Lys Thr Lys Lys Phe Asp Glu
      225          230          235          240
Leu Leu His Leu Ala Ser Arg Gly Gln His Ser Asn Val Asp Met Leu
      245          250          255
Val Arg Asp Val Tyr Gly Gly Ala His Gln Thr Leu Gly Leu Ser Gly
      260          265          270
Asn Leu Ile Ala Ser Ser Phe Gly Lys Ser Ala Thr Ala Asp Gln Glu
      275          280          285
Phe Ser Lys Glu Asp Met Ala Lys Ser Leu Leu His Met Ile
      290          295          300

```

&lt;210&gt; 4373

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4373

```

acgcgtcatc acggctgcgc cgggggaatc cgtgcgggcg ccttcggtcc cgggcccatc
60
ctcgccgcgc tccagcacct ctgaagtttt gcagcgccca gaaaggaggc gaggaaggag
120
ggagtgtgtg agaggaggga gcaaaaagct caccctaaaa catttatattc aaggagaaaa
180
gaaaaagggg gggcgcaaaa atggctgggg caattataga aaacatgagc accaagaagc
240
tgtgcattgt tgggtgggatt ctgctcgtgt tccaaatcat cgcctttctg gtgggaggct
300

```

tgattgctcc agggcccaca acggcagtgt cctacatgtc ggtgaaatgt gtggatgccc  
 360  
 gtaagaacca tcacaagaca aaatgggttcg tgccttgggg acccaatcat tgtgacaaga  
 420  
 tccgagacat tgaagaggca attccaaggg aaattgaagc caatgacatc gtgttttctg  
 480  
 ttcacattcc cctccccac atggagatga gtccttgggtt ccaattcatg ctgtttatcc  
 540  
 tgcagctgga cattgccttc aagctaaaca accaaatcag agaaaatgca gaagtctcca  
 600  
 tggacgtttc cctggcttac cgtgatgacg cgtttgctga gtggactgaa atggcccatg  
 660  
 aaagagtacc acggaaactc aaatgcacct tcacatctcc caagactcca gagcatgagg  
 720  
 gccgttacta tgaatgtgat gtccttcctt tcatggaaat tgggtctgtg gcccataagt  
 780  
 tttacctttt aaacatccgg ctgcctgtga atgagaagaa gaaaatcaat gtgggaattg  
 840  
 gggagataaa ggatatccgg ttggtgggga tccacaaaaa tggaggcttc accaaggtgt  
 900  
 ggtttgccat gaagaccttc cttacgcccga gcatcttcat cattatgggtg tggatttgga  
 960  
 ggaggatcac catgatgtcc cgacccccag tgcttctgga aaaagtcac tttgccc  
 1017

&lt;210&gt; 4374

&lt;211&gt; 272

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4374

Met	Ala	Gly	Ala	Ile	Ile	Glu	Asn	Met	Ser	Thr	Lys	Lys	Leu	Cys	Ile
1				5					10					15	
Val	Gly	Gly	Ile	Leu	Leu	Val	Phe	Gln	Ile	Ile	Ala	Phe	Leu	Val	Gly
			20					25					30		
Gly	Leu	Ile	Ala	Pro	Gly	Pro	Thr	Thr	Ala	Val	Ser	Tyr	Met	Ser	Val
			35				40					45			
Lys	Cys	Val	Asp	Ala	Arg	Lys	Asn	His	His	Lys	Thr	Lys	Trp	Phe	Val
	50					55				60					
Pro	Trp	Gly	Pro	Asn	His	Cys	Asp	Lys	Ile	Arg	Asp	Ile	Glu	Glu	Ala
65				70					75					80	
Ile	Pro	Arg	Glu	Ile	Glu	Ala	Asn	Asp	Ile	Val	Phe	Ser	Val	His	Ile
			85						90					95	
Pro	Leu	Pro	His	Met	Glu	Met	Ser	Pro	Trp	Phe	Gln	Phe	Met	Leu	Phe
			100					105					110		
Ile	Leu	Gln	Leu	Asp	Ile	Ala	Phe	Lys	Leu	Asn	Asn	Gln	Ile	Arg	Glu
			115					120				125			
Asn	Ala	Glu	Val	Ser	Met	Asp	Val	Ser	Leu	Ala	Tyr	Arg	Asp	Asp	Ala
	130					135					140				
Phe	Ala	Glu	Trp	Thr	Glu	Met	Ala	His	Glu	Arg	Val	Pro	Arg	Lys	Leu
145				150					155					160	
Lys	Cys	Thr	Phe	Thr	Ser	Pro	Lys	Thr	Pro	Glu	His	Glu	Gly	Arg	Tyr
			165					170					175		
Tyr	Glu	Cys	Asp	Val	Leu	Pro	Phe	Met	Glu	Ile	Gly	Ser	Val	Ala	His



			180					185					190				
Lys	Phe	Tyr	Leu	Leu	Asn	Ile	Arg	Leu	Pro	Val	Asn	Glu	Lys	Lys	Lys		
		195					200					205					
Ile	Asn	Val	Gly	Ile	Gly	Glu	Ile	Lys	Asp	Ile	Arg	Leu	Val	Gly	Ile		
	210				215						220						
His	Gln	Asn	Gly	Gly	Phe	Thr	Lys	Val	Trp	Phe	Ala	Met	Lys	Thr	Phe		
225					230					235					240		
Leu	Thr	Pro	Ser	Ile	Phe	Ile	Ile	Met	Val	Trp	Tyr	Trp	Arg	Arg	Ile		
			245					250						255			
Thr	Met	Met	Ser	Arg	Pro	Pro	Val	Leu	Leu	Glu	Lys	Val	Ile	Phe	Ala		
			260					265						270			

<210> 4375  
 <211> 1966  
 <212> DNA  
 <213> Homo sapiens

<400> 4375  
 aaggtgcctg cattgtatac caccacgtcg ggcaggtgct cctggaggga tttcttgatg  
 60  
 ttctctcca ccttatccag gtactcatca tcctctgtgc cccactccag ctccaccttc  
 120  
 cgctgacgg ccagcttttg gagggccggc cccgggatgc tacacacaac ccagctgtac  
 180  
 cagcatgtgc cagagacacg ctggccaatc gtgtactcgc cgcgctacaa catcaccttc  
 240  
 atgggcctgg agaagctgca tccctttgat gccggaaaat ggggcaaagt gatcaatttc  
 300  
 ctaaaagaag agaagcttct gtctgacagc atgctggtgg aggcgcggga ggccctcggag  
 360  
 gaggacctgc tgggtggtgca cacgaggcgc tatcttaatg agctcaagtg gtcctttgct  
 420  
 gttgctacca tcacagaaat ccccccggtt atcttctctc ccaacttcct tgtgcagagg  
 480  
 aaggtgctga ggcccccttc gaccagaca ggaggaacca taatggcggg gaagctggct  
 540  
 gtggagcgag gctgggcat caacgtgggg ggtggcttcc accactgctc cagcgaccgt  
 600  
 ggcgggggct tctgtgccta tgcggacatc acgctcgcca tcaagtttct gtttgagcgt  
 660  
 gtggagggca tctccagggc taccatcatt gatcttgatg cccatcaggg caatgggcat  
 720  
 gagcgagact tcatggacga caagtgtgtg acatgcatgg atgtctacaa ccgccacatc  
 780  
 taccaggggg accgctttgc caagcaggcc atcaggcgga aggtggagct ggagtggggc  
 840  
 acagaggatg atgagtacct ggataaggtg gagaggaaca tcaagaaatc cctccaggag  
 900  
 cacctgcccc acgtggtggt atacaatgca ggcaccgaca tcctcgaggg ggaccgcctt  
 960  
 ggggggctgt ccatcagccc agcgggcacg gtgaagcggg atgagctggt gttccggatg  
 1020  
 gtccgtggcc gccgggtgcc catccttatg gtgacctcag gcgggtacca gaagcgaca  
 1080

gcccgcatca ttgctgactc cataacttaat ctgttttggcc tggggctcat tgggcctgag  
 1140  
 tcacccagcg tctccgcaca gaactcagac acaccgctgc ttccccctgc agtgcctga  
 1200  
 cccttgctgc cctgcctgtc acgtggccct gcctatccgc cccttagtgc tttttgtttt  
 1260  
 ctaacctcat ggggtggtgg aggcagcctt cagttagcat ggaggggcag ggccatccct  
 1320  
 ggctggggcc tggagctggc ccttcctcta cttttccctg ctggaagcca gaagggttg  
 1380  
 aggcctctat ggggtggggc agaaagcaga gcctgtgtcc caggggaccc acacgaagtc  
 1440  
 accagcccat aggtccaggg aggcaggcag ttaactgaga attggagagg acaggctagg  
 1500  
 tcccaggcac agcgagggcc ctgggcttgg ggtgttctgg ttttgagaac ggcagaccca  
 1560  
 ggtcggagtg aggaagcttc cacctccatc ctgactaggc ctgcatccta actgggcctc  
 1620  
 cctccctccc cttggtcatt ggatttctg cctctttgc ccagagctg aagagctata  
 1680  
 ggcaactggtg tggatggccc agggagtgct ggagctaggt ctccaggtgg gcctgggtcc  
 1740  
 caggcagcag gtgggaaccc tgggcctgga tgtgaggggc ggtcaggaag gggtagaggt  
 1800  
 gggttccctc atctggagtt cccctcaat aaagcaaggt ctggacctgc cttccaggc  
 1860  
 ccttctgtgg ggggtgaaggt ggggaaggcc tgcggcgccc agatcactgc cttagcagta  
 1920  
 gtcttgctg ttcagtga ggggcaggtt ttggggggag gaattc  
 1966

&lt;210&gt; 4376

&lt;211&gt; 399

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4376

Lys	Val	Pro	Ala	Leu	Tyr	Thr	Thr	Thr	Ser	Gly	Arg	Cys	Ser	Trp	Arg
1				5					10					15	
Asp	Phe	Leu	Met	Phe	Leu	Ser	Thr	Leu	Ser	Arg	Tyr	Ser	Ser	Ser	Ser
		20						25					30		
Val	Pro	His	Ser	Ser	Ser	Thr	Phe	Arg	Leu	Thr	Ala	Ser	Phe	Gly	Arg
		35					40					45			
Ala	Gly	Pro	Gly	Met	Leu	His	Thr	Thr	Gln	Leu	Tyr	Gln	His	Val	Pro
	50				55					60					
Glu	Thr	Arg	Trp	Pro	Ile	Val	Tyr	Ser	Pro	Arg	Tyr	Asn	Ile	Thr	Phe
65					70					75				80	
Met	Gly	Leu	Glu	Lys	Leu	His	Pro	Phe	Asp	Ala	Gly	Lys	Trp	Gly	Lys
				85					90					95	
Val	Ile	Asn	Phe	Leu	Lys	Glu	Glu	Lys	Leu	Leu	Ser	Asp	Ser	Met	Leu
		100						105					110		
Val	Glu	Ala	Arg	Glu	Ala	Ser	Glu	Glu	Asp	Leu	Leu	Val	Val	His	Thr
		115					120					125			
Arg	Arg	Tyr	Leu	Asn	Glu	Leu	Lys	Trp	Ser	Phe	Ala	Val	Ala	Thr	Ile

130 135 140  
 Thr Glu Ile Pro Pro Val Ile Phe Leu Pro Asn Phe Leu Val Gln Arg  
 145 150 155 160  
 Lys Val Leu Arg Pro Leu Arg Thr Gln Thr Gly Gly Thr Ile Met Ala  
 165 170 175  
 Gly Lys Leu Ala Val Glu Arg Gly Trp Ala Ile Asn Val Gly Gly Gly  
 180 185 190  
 Phe His His Cys Ser Ser Asp Arg Gly Gly Gly Phe Cys Ala Tyr Ala  
 195 200 205  
 Asp Ile Thr Leu Ala Ile Lys Phe Leu Phe Glu Arg Val Glu Gly Ile  
 210 215 220  
 Ser Arg Ala Thr Ile Ile Asp Leu Asp Ala His Gln Gly Asn Gly His  
 225 230 235 240  
 Glu Arg Asp Phe Met Asp Asp Lys Cys Val Thr Cys Met Asp Val Tyr  
 245 250 255  
 Asn Arg His Ile Tyr Pro Gly Asp Arg Phe Ala Lys Gln Ala Ile Arg  
 260 265 270  
 Arg Lys Val Glu Leu Glu Trp Gly Thr Glu Asp Asp Glu Tyr Leu Asp  
 275 280 285  
 Lys Val Glu Arg Asn Ile Lys Lys Ser Leu Gln Glu His Leu Pro Asp  
 290 295 300  
 Val Val Val Tyr Asn Ala Gly Thr Asp Ile Leu Glu Gly Asp Arg Leu  
 305 310 315 320  
 Gly Gly Leu Ser Ile Ser Pro Ala Gly Ile Val Lys Arg Asp Glu Leu  
 325 330 335  
 Val Phe Arg Met Val Arg Gly Arg Arg Val Pro Ile Leu Met Val Thr  
 340 345 350  
 Ser Gly Gly Tyr Gln Lys Arg Thr Ala Arg Ile Ile Ala Asp Ser Ile  
 355 360 365  
 Leu Asn Leu Phe Gly Leu Gly Leu Ile Gly Pro Glu Ser Pro Ser Val  
 370 375 380  
 Ser Ala Gln Asn Ser Asp Thr Pro Leu Leu Pro Pro Ala Val Pro  
 385 390 395

&lt;210&gt; 4377

&lt;211&gt; 812

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4377

ntcttgggga ggcggtgccc cccatggcga ggccggcgag agcagggcct gcttcccccc  
 60  
 gaggacagcc gcctgtggca gtatcttctg agccgctcca tgcgggagca cccggcgctg  
 120  
 cgaagcctga ggctgctgac cctggagcag ccgcaggggg attctatgat gacctgagcag  
 180  
 caggccccagc tcttggccaa cctggcgcgg ctcatccagg ccaagaaggc gctggacctg  
 240  
 ggcacettca cgggctactc cgccctggcc ctggccctgg cgctgcccgc ggacggggcg  
 300  
 gtggtgacct gcgaggtgga cgcgcagccc ccggagctgg gacggcccct gtggaggcag  
 360  
 gccgaggcgg agcacaagat tcgactccgg ctgaagcccg ccttggagac cctggacgag  
 420

ctgctggcgg cgggcgaggc cggcaccttc gacgtggccg tgggtggatgc ggacaaggag  
 480  
 aactgctccg cctactacga gcgctgcctg cagctgctgc gacccggagg catcctcgcc  
 540  
 gtcctcagag tcctgtggcg cgggaagggtg ctgcaacctc cgaaagggga cgtggcggcc  
 600  
 gagtgtgtgc gaaacctaaa cgaacgcac cggcgggacg tcaggggtcta catcagcctc  
 660  
 ctgcccctgg gcgatggact caccttgccc ttcaagatct agggctggcc cctagtgagt  
 720  
 gggctcgagg gagggttgcc tgggaacccc aggaattgac cctgagtttt aaattcgaaa  
 780  
 ataaagtggg gctgggacac acgaaaaaaaa aa  
 812

&lt;210&gt; 4378

&lt;211&gt; 233

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4378

Xaa	Leu	Gly	Arg	Arg	Cys	Pro	Pro	Trp	Arg	Gly	Arg	Arg	Glu	Gln	Gly
1				5					10					15	
Leu	Leu	Pro	Pro	Glu	Asp	Ser	Arg	Leu	Trp	Gln	Tyr	Leu	Leu	Ser	Arg
		20						25					30		
Ser	Met	Arg	Glu	His	Pro	Ala	Leu	Arg	Ser	Leu	Arg	Leu	Leu	Thr	Leu
		35					40					45			
Glu	Gln	Pro	Gln	Gly	Asp	Ser	Met	Met	Thr	Cys	Glu	Gln	Ala	Gln	Leu
	50					55				60					
Leu	Ala	Asn	Leu	Ala	Arg	Leu	Ile	Gln	Ala	Lys	Lys	Ala	Leu	Asp	Leu
65					70					75					80
Gly	Thr	Phe	Thr	Gly	Tyr	Ser	Ala	Leu	Ala	Leu	Ala	Leu	Ala	Leu	Pro
			85					90						95	
Ala	Asp	Gly	Arg	Val	Val	Thr	Cys	Glu	Val	Asp	Ala	Gln	Pro	Pro	Glu
		100						105					110		
Leu	Gly	Arg	Pro	Leu	Trp	Arg	Gln	Ala	Glu	Ala	Glu	His	Lys	Ile	Arg
	115						120					125			
Leu	Arg	Leu	Lys	Pro	Ala	Leu	Glu	Thr	Leu	Asp	Glu	Leu	Leu	Ala	Ala
	130					135					140				
Gly	Glu	Ala	Gly	Thr	Phe	Asp	Val	Ala	Val	Val	Asp	Ala	Asp	Lys	Glu
145					150					155					160
Asn	Cys	Ser	Ala	Tyr	Tyr	Glu	Arg	Cys	Leu	Gln	Leu	Leu	Arg	Pro	Gly
			165						170					175	
Gly	Ile	Leu	Ala	Val	Leu	Arg	Val	Leu	Trp	Arg	Gly	Lys	Val	Leu	Gln
		180						185					190		
Pro	Pro	Lys	Gly	Asp	Val	Ala	Ala	Glu	Cys	Val	Arg	Asn	Leu	Asn	Glu
		195					200					205			
Arg	Ile	Arg	Arg	Asp	Val	Arg	Val	Tyr	Ile	Ser	Leu	Leu	Pro	Leu	Gly
	210					215							220		
Asp	Gly	Leu	Thr	Leu	Ala	Phe	Lys	Ile							
225						230									

&lt;210&gt; 4379

&lt;211&gt; 2347

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4379

ngaggaccaa gccatgcgtg cctttgagct aatgaggagc aacgcggccc tgttccagct  
60  
gggctcggcc ccgcggtgtg ctggattgtg tgcacgactc tgaagctgca gatggagaag  
120  
ggggaggacc cgggtcccccac ctgcctcacc cgcacggggc tgttcctgcg tttcctctgc  
180  
agccggttcc cgcggggcgc acagctgcgg ggcgcgctgc ggacgctgag cctcctggcc  
240  
gcgcagggcc tgtgggcgca gacgtccgtg cttcaccgag aggatctgga aaggctcggg  
300  
gtgcaggagt ccgacctccg tctgttcctg gacggagaca tctccgcca ggacagagtc  
360  
tccaaaggct gctactcctt catccacctc agcttccagc agtttctcac tgcctgttc  
420  
tacaccctgg agaaggagga ggaagaggat agggacggcc acacctggga cattggggac  
480  
gtacagaagc tgctttccgg agtagaaaga ctcaggaacc ccgacctgat ccaagcaggc  
540  
tactactcct ttggcctcgc taacgagaag agagccaagg agttggaggc cacttttggc  
600  
tgccggatgt caccggacat caaacaggaa ttgctgcgat gcgacataag ttgtaaggg  
660  
ggacattcaa cgggtgacaga cctgcaggag ctgctcggct gtctgtacga gtctcaggag  
720  
gaggagctgg tgaaggaggt gatggctcag ttcaaagaaa tatccctgca cttaaatgca  
780  
gtagacgttg tgccatcttc attctgcgtc aagcactgtc gaaacctgca gaaaatgtca  
840  
ctgcaggtaa taaaggagaa tctcccgagg aatgtcactg cgtctgaatc agacgccgag  
900  
gttgagagat cccaggatga tcagcacatg cttcctttct ggacggacct ttgttccata  
960  
tttgatcaa ataaggatct gatgggtcta gcaatcaatg atagctttct cagtgcctcc  
1020  
ctagtaagga tcctgtgtga acaaatagcc tctgacacct gtcattctcca gagagtgggtg  
1080  
ttcaaaaaca tttccccagc tgatgctcat cggaacctcn tgcctnnagc tcttcgagg  
1140  
cacaagactg taacgtatct gacccttcaa ggcaatgacc aggatgatat gtttcccgca  
1200  
ttgtgtgagg tcttgagaca tccagaatgt aacctgcgat atctcgggtt ggtgtcttgt  
1260  
tccgctacca ctcagcagtg ggctgatctc tcttggccc ttgaagtcaa ccagtccttg  
1320  
acgtgcgtaa acctctccga caatgagctt ctggatgagg gtgctaagtt gctgtacaca  
1380  
actttgagac accccaagtg ctttctgcag aggttgctgt tggaaaactg tcaccttaca  
1440  
gaagccaatt gcaaggacct tgctgctgtg ttggttgtca gccgggagct gacacacctg  
1500

tgcttggeca agaaccccat tgggaataca ggggtgaagt ttctgtgtga gggcttgagg  
 1560  
 taccccgagt gtaaactgca gaccttggtg ctttggaact gcgacataac tagcgatggc  
 1620  
 tgctgcgata tcacaaagct tctccaagaa aaatcaagcc tgttggtgtt ggatctgggg  
 1680  
 ctgaatcaca taggaggttaa ggggaatgaag ttctgtgtg aggccttgag gaaaccactg  
 1740  
 tgcaacttga gatgtctgtg gttgtgggga tgttccatcc ctccgttcag ttgtgaagac  
 1800  
 gtctgctctg cctcagctg caaccagagc ctggtcactc tggacctggg tcagaatccc  
 1860  
 ttgggggtcta gtggagtga gatgctgtt gaaaccttga catgttccag tggcacccctc  
 1920  
 cggacactca ggttgaaaat agatgacttt aatgatgaac tcaataagct gctggaagaa  
 1980  
 atagaagaaa aaaaccaca actgattatt gatactgaga aacatcatcc ctgggaagaa  
 2040  
 aggccttctt ctcatgactt catgatctga atccccccga gtcattcatt ctccatgaag  
 2100  
 tcatcgattt tccaggtgtg ggtgaactgc ctgtgactcc tctcctcccc cgccctacc  
 2160  
 cctcagggat aatgagttca ttgctgggct agatgtttta gccatgattc tgcctctgtt  
 2220  
 ttatacctgc acacatcctt atctttgtta catatgaaat atctgtatca cgggtatatt  
 2280  
 gagagaaata aaggtgagag cattcacaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2340  
 aaaaaaa  
 2347

&lt;210&gt; 4380

&lt;211&gt; 652

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4380

Met	Glu	Lys	Gly	Glu	Asp	Pro	Val	Pro	Thr	Cys	Leu	Thr	Arg	Thr	Gly
1				5					10					15	
Leu	Phe	Leu	Arg	Phe	Leu	Cys	Ser	Arg	Phe	Pro	Arg	Gly	Ala	Gln	Leu
			20					25					30		
Arg	Gly	Ala	Leu	Arg	Thr	Leu	Ser	Leu	Leu	Ala	Ala	Gln	Gly	Leu	Trp
		35					40					45			
Ala	Gln	Thr	Ser	Val	Leu	His	Arg	Glu	Asp	Leu	Glu	Arg	Leu	Gly	Val
	50					55					60				
Gln	Glu	Ser	Asp	Leu	Arg	Leu	Phe	Leu	Asp	Gly	Asp	Ile	Leu	Arg	Gln
65					70					75				80	
Asp	Arg	Val	Ser	Lys	Gly	Cys	Tyr	Ser	Phe	Ile	His	Leu	Ser	Phe	Gln
				85					90					95	
Gln	Phe	Leu	Thr	Ala	Leu	Phe	Tyr	Thr	Leu	Glu	Lys	Glu	Glu	Glu	Glu
			100					105					110		
Asp	Arg	Asp	Gly	His	Thr	Trp	Asp	Ile	Gly	Asp	Val	Gln	Lys	Leu	Leu
		115					120					125			
Ser	Gly	Val	Glu	Arg	Leu	Arg	Asn	Pro	Asp	Leu	Ile	Gln	Ala	Gly	Tyr

130 135 140  
 Tyr Ser Phe Gly Leu Ala Asn Glu Lys Arg Ala Lys Glu Leu Glu Ala  
 145 150 155 160  
 Thr Phe Gly Cys Arg Met Ser Pro Asp Ile Lys Gln Glu Leu Leu Arg  
 165 170 175  
 Cys Asp Ile Ser Cys Lys Gly Gly His Ser Thr Val Thr Asp Leu Gln  
 180 185 190  
 Glu Leu Leu Gly Cys Leu Tyr Glu Ser Gln Glu Glu Glu Leu Val Lys  
 195 200 205  
 Glu Val Met Ala Gln Phe Lys Glu Ile Ser Leu His Leu Asn Ala Val  
 210 215 220  
 Asp Val Val Pro Ser Ser Phe Cys Val Lys His Cys Arg Asn Leu Gln  
 225 230 235 240  
 Lys Met Ser Leu Gln Val Ile Lys Glu Asn Leu Pro Glu Asn Val Thr  
 245 250 255  
 Ala Ser Glu Ser Asp Ala Glu Val Glu Arg Ser Gln Asp Asp Gln His  
 260 265 270  
 Met Leu Pro Phe Trp Thr Asp Leu Cys Ser Ile Phe Gly Ser Asn Lys  
 275 280 285  
 Asp Leu Met Gly Leu Ala Ile Asn Asp Ser Phe Leu Ser Ala Ser Leu  
 290 295 300  
 Val Arg Ile Leu Cys Glu Gln Ile Ala Ser Asp Thr Cys His Leu Gln  
 305 310 315 320  
 Arg Val Val Phe Lys Asn Ile Ser Pro Ala Asp Ala His Arg Asn Leu  
 325 330 335  
 Xaa Pro Xaa Ala Leu Arg Gly His Lys Thr Val Thr Tyr Leu Thr Leu  
 340 345 350  
 Gln Gly Asn Asp Gln Asp Asp Met Phe Pro Ala Leu Cys Glu Val Leu  
 355 360 365  
 Arg His Pro Glu Cys Asn Leu Arg Tyr Leu Gly Leu Val Ser Cys Ser  
 370 375 380  
 Ala Thr Thr Gln Gln Trp Ala Asp Leu Ser Leu Ala Leu Glu Val Asn  
 385 390 395 400  
 Gln Ser Leu Thr Cys Val Asn Leu Ser Asp Asn Glu Leu Leu Asp Glu  
 405 410 415  
 Gly Ala Lys Leu Leu Tyr Thr Thr Leu Arg His Pro Lys Cys Phe Leu  
 420 425 430  
 Gln Arg Leu Ser Leu Glu Asn Cys His Leu Thr Glu Ala Asn Cys Lys  
 435 440 445  
 Asp Leu Ala Ala Val Leu Val Val Ser Arg Glu Leu Thr His Leu Cys  
 450 455 460  
 Leu Ala Lys Asn Pro Ile Gly Asn Thr Gly Val Lys Phe Leu Cys Glu  
 465 470 475 480  
 Gly Leu Arg Tyr Pro Glu Cys Lys Leu Gln Thr Leu Val Leu Trp Asn  
 485 490 495  
 Cys Asp Ile Thr Ser Asp Gly Cys Cys Asp Leu Thr Lys Leu Leu Gln  
 500 505 510  
 Glu Lys Ser Ser Leu Leu Cys Leu Asp Leu Gly Leu Asn His Ile Gly  
 515 520 525  
 Val Lys Gly Met Lys Phe Leu Cys Glu Ala Leu Arg Lys Pro Leu Cys  
 530 535 540  
 Asn Leu Arg Cys Leu Trp Leu Trp Gly Cys Ser Ile Pro Pro Phe Ser  
 545 550 555 560  
 Cys Glu Asp Val Cys Ser Ala Leu Ser Cys Asn Gln Ser Leu Val Thr

BNSDOCID: <WO\_\_\_\_\_0058473A2\_1\_>



accatccgct aacacccgcc tgccagagcg gaaaccgggg gtggggggag acactcattt  
 1140  
 ctaggccccca tcaccagtca cttgatttcg tgaccttgat ttcttcccc aaatttaata  
 1200  
 aagacagagg gttctcatga ttcacattgg ttgtgctatt gctgatgta tgctttgggt  
 1260  
 gcttggttg tcttttctga gtattttagt gttgccacct ggatttgctg cattgctctg  
 1320  
 ctgagctgta ttgaaaccat gactgggccc actgtcagac agaaattaga ataggaggca  
 1380  
 cattttttac ctgggtggta tgagcatgga cttggggggc acagtgactg agtttgattc  
 1440  
 ccgacacagc ctctccttg ctgtgtagtt ttgggtaagc ttattaaacc cccatgcctc  
 1500  
 agtttggtca cctgtaaaag gaaataacaa gagcacttac tttataagat tgatgtgagt  
 1560  
 attaagtga ttaatatattg taaaacgctt agctcttaat aaatgtttct gttgttatta  
 1620  
 aaaaaaaaa aaaaaaaaa  
 1638

&lt;210&gt; 4382

&lt;211&gt; 325

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4382

Met	Ala	Gln	Tyr	Lys	Gly	Thr	Met	Arg	Glu	Ala	Gly	Arg	Ala	Met	His
1				5					10					15	
Leu	Leu	Lys	Lys	Arg	Glu	Arg	Gln	Arg	Glu	Gln	Met	Glu	Val	Leu	Lys
			20					25					30		
Gln	Arg	Ile	Ala	Glu	Glu	Thr	Ile	Leu	Lys	Ser	Gln	Val	Asp	Lys	Arg
		35					40					45			
Phe	Ser	Ala	His	Tyr	Asp	Ala	Val	Glu	Ala	Glu	Leu	Lys	Ser	Ser	Ala
	50					55					60				
Val	Gly	Leu	Val	Thr	Leu	Asn	Asp	Met	Lys	Ala	Arg	Gln	Glu	Ala	Leu
65					70					75					80
Val	Arg	Glu	Arg	Glu	Arg	Gln	Leu	Ala	Lys	Arg	Gln	His	Leu	Glu	Glu
				85					90					95	
Gln	Arg	Leu	Gln	Gln	Glu	Arg	Gln	Arg	Glu	Gln	Glu	Gln	Arg	Arg	Glu
			100					105					110		
Arg	Lys	Arg	Lys	Ile	Ser	Cys	Leu	Ser	Phe	Ala	Leu	Asp	Asp	Leu	Asp
		115					120					125			
Asp	Gln	Ala	Asp	Ala	Ala	Glu	Ala	Arg	Arg	Ala	Gly	Asn	Leu	Gly	Lys
		130				135					140				
Asn	Pro	Asp	Val	Asp	Thr	Ser	Phe	Leu	Pro	Asp	Arg	Asp	Arg	Glu	Glu
145					150					155					160
Glu	Glu	Asn	Arg	Leu	Arg	Glu	Glu	Leu	Arg	Gln	Glu	Trp	Glu	Ala	Gln
			165					170					175		
Arg	Glu	Lys	Val	Lys	Asp	Glu	Glu	Met	Glu	Val	Thr	Phe	Ser	Tyr	Trp
		180						185					190		
Asp	Gly	Ser	Gly	His	Arg	Arg	Thr	Val	Arg	Val	Arg	Lys	Gly	Asn	Thr
		195					200					205			
Val	Gln	Gln	Phe	Leu	Lys	Lys	Ala	Leu	Gln	Gly	Leu	Arg	Lys	Asp	Phe

```

      210                      215                      220
Leu Glu Leu Arg Ser Ala Gly Val Glu Gln Leu Met Phe Ile Lys Glu
225                      230                      235                      240
Asp Leu Ile Leu Pro His Tyr His Thr Phe Tyr Asp Phe Ile Ile Ala
      245                      250                      255
Arg Ala Arg Gly Lys Ser Gly Pro Leu Phe Ser Phe Asp Val His Asp
      260                      265                      270
Asp Val Arg Leu Leu Ser Asp Ala Thr Met Glu Lys Asp Glu Ser His
      275                      280                      285
Ala Gly Lys Val Val Leu Arg Ser Trp Tyr Glu Lys Asn Lys His Ile
      290                      295                      300
Phe Pro Ala Ser Arg Trp Glu Ala Tyr Asp Pro Glu Lys Lys Trp Asp
305                      310                      315                      320
Lys Tyr Thr Ile Arg
      325

```

&lt;210&gt; 4383

&lt;211&gt; 419

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4383

```

cgagatctgg cgtgttttat acagtttgaa aatgtcaaca tttactatgg gactcagcat
60
aaaatgaaat ataaagcgcc cactgactat tgctttgttt taaagcaccc ccaaattcag
120
aaggagtccc agtatatcaa gtatctctgc tgtgatgaca caagaaccct taaccagtgg
180
gtcatgggaa tacggatagc caagtatggg aagactctct atgataacta ccagcgggct
240
gtggcaaagg ctggacttgc ctctcgggtgg acaaacttgg ggacagtcaa tgcagctgca
300
ccagctcagc catttacagg acctaaaaca ggcaccaccc agcccaatgg acagattccc
360
caggctacac atttcttcag tgctgttctc caagaagccc agagacatgc tgaaaactn
419

```

&lt;210&gt; 4384

&lt;211&gt; 139

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4384

```

Arg Asp Leu Ala Cys Phe Ile Gln Phe Glu Asn Val Asn Ile Tyr Tyr
1      5      10      15
Gly Thr Gln His Lys Met Lys Tyr Lys Ala Pro Thr Asp Tyr Cys Phe
      20      25      30
Val Leu Lys His Pro Gln Ile Gln Lys Glu Ser Gln Tyr Ile Lys Tyr
      35      40      45
Leu Cys Cys Asp Asp Thr Arg Thr Leu Asn Gln Trp Val Met Gly Ile
      50      55      60
Arg Ile Ala Lys Tyr Gly Lys Thr Leu Tyr Asp Asn Tyr Gln Arg Ala
      65      70      75      80
Val Ala Lys Ala Gly Leu Ala Ser Arg Trp Thr Asn Leu Gly Thr Val

```

	85		90		95										
Asn	Ala	Ala	Ala	Pro	Ala	Gln	Pro	Phe	Thr	Gly	Pro	Lys	Thr	Gly	Thr
	100							105						110	
Thr	Gln	Pro	Asn	Gly	Gln	Ile	Pro	Gln	Ala	Thr	His	Phe	Phe	Ser	Ala
	115						120					125			
Val	Leu	Gln	Glu	Ala	Gln	Arg	His	Ala	Glu	Asn					
	130					135									

&lt;210&gt; 4385

&lt;211&gt; 754

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4385

```

nttttagagga gggctcgggc tagtttattt tctctctgga ggggtcttca gggagagcag
60
tcccggtctgc tcaagcgggt gggaaggagc ggccactctt gctgaaaggt ggctgggaga
120
ggctcctggtc agagtctggag tcagagtcctc aggaggggag tggagggctc aggcactggt
180
gccccttggtg gcctcttagg ctcgaggcct tgggacaggc ccccgagcac aaagtgagggc
240
tgtctatgga gttctgcagc acgtgcacag cagaccatat atcactcagt tccttctgga
300
ggtcacacctt ccagcagcca ctggctccct gcggtatctc ttcagtctcc ggacaggcgg
360
ctgtctcatg accctgctgc ttcattcttg tcaggatttt gcggcatttc acctgcgttt
420
tctgcatttt ctgaatgttc accaagttct ctgagatctc atcctcctgc gcttcttcaa
480
gctgctgaat cttgatttgc tgcaagcagc tctccttctc caacatgggt actgagtggg
540
tcaggaactc gaaagccttg gtctgggcct gtaactggct cttgagtgc ccaagttcac
600
atcgaggag cttctgggag tcgggaatca tcacaatggt cttggctttg actttggaag
660
agctggctct caagggcttc acataccacc tgttcatgct ctcccatcag ggaccacgaa
720
gaaagtcctc agctgtgacg ctgaagtttg atca
754

```

&lt;210&gt; 4386

&lt;211&gt; 85

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4386

Gly	Cys	Leu	Trp	Ser	Ser	Ala	Ala	Arg	Ala	Gln	Gln	Thr	Ile	Tyr	His
1				5				10						15	
Ser	Val	Pro	Ser	Gly	Gly	His	Pro	Ser	Ser	Ser	His	Trp	Leu	Pro	Ala
		20					25					30			
Val	Ser	Leu	Gln	Ser	Pro	Asp	Arg	Arg	Leu	Ser	His	Asp	Pro	Ala	Ala
	35					40					45				
Ser	Ser	Trp	Ser	Gly	Phe	Cys	Gly	Ile	Ser	Pro	Ala	Phe	Ser	Ala	Phe

Ser Glu Cys Ser Pro Ser Ser Leu Arg Ser His Pro Pro Ala Leu Leu  
65 70 75 80

Gln Ala Ala Glu Ser  
85

```
<210> 4387
<211> 341
<212> DNA
<213> Homo sapiens
```

```
<400> 4387
gggggggggcc ttcccatctt tttccctttt atggggggggg ggtttttttaa aaaaaaaggg
60
gggccccccc aaaagggggg ggggggaagg gggttttccc accccaaaaa accccccccc
120
ccccccgggn gggggggaag gggggggggg tttttcccc ctcccccccc ccctaaaaaa
180
aaaaccggga aaattttttt tcccccccc ccaaaaaaaaa aaaaaaaaacc ggggggcccc
240
cctttttttg gggggggggg tttttttttt tttttttttt tttttttttt ttttttttac
300
aaaacagaga atgtttattg tgccagaggg tggagtgtgc n
341
```

```
<210> 4388
<211> 113
<212> PRT
<213> Homo sapiens
```

```

<400> 4388
Gly Gly Gly Leu Pro Ile Phe Phe Pro Phe Met Gly Gly Gly Phe Phe
 1          5          10          15
Lys Lys Lys Gly Gly Pro Pro Gln Lys Gly Gly Gly Gly Arg Gly Phe
 20          25          30
Ser His Pro Lys Lys Pro Pro Pro Pro Pro Gly Xaa Gly Gly Arg Gly
 35          40          45
Gly Gly Phe Phe Pro Pro Pro Pro Pro Pro Lys Lys Lys Thr Arg Lys
 50          55          60
Ile Phe Phe Pro Pro Pro Pro Lys Lys Lys Lys Lys Pro Gly Gly Pro
65          70          75          80
Pro Phe Phe Gly Gly Gly Gly Phe Phe Phe Phe Phe Phe Phe Phe
 85          90          95
Phe Phe Phe Tyr Lys Thr Glu Asn Val Tyr Cys Ala Arg Gly Trp Ser
100          105          110
Val

```

```
<210> 4389
<211> 1895
<212> DNA
<213> Homo sapiens
```

<400> 4389

nggtgttttg cgggctgccg tacagcgaag agcgcgtgct gaagagttgc gcgtggcgtg  
60  
gctgccgagg gccgcgcggt gtacgtggtg gacgacgcag ctgtcctggg cgcagaggac  
120  
ccagcgggtgt acggcgattc tgcccgtgag aaggcattgc gtggagctct gcgagcctcc  
180  
gtggaacgac gcctgagtcg ccacgacgtc gtcacacctg actcgcttaa ctacatcaaa  
240  
ggtttccggt acgagctcta ctgcctggca cgggcggcgc gcaccccgct ctgcctggtc  
300  
tactgcgtac ggcccggcgg cccgatcgcg ggacctcagg tggcggggcg gaacgagaac  
360  
cctggccgga acgtcagtggt gagttggcgg ccacgcgctg aggaggacgg gagagcccag  
420  
gcggcgggca gcagcgtcct cagggaaactg catactgcgg actctgtagt aaatggaagt  
480  
gcccaggccg acgtacccaa ggaactggag cgagaagaat ccggggctgc ggagtctcca  
540  
gctcttgtga ctccggattc agagaaatct gcaaagcatg ggtccggtgc cttttactct  
600  
cccgaactcc tggaggccct aacgctgcgc tttgaggctc ccgattctcg gaatcgctgg  
660  
gaccggcctt tattcacttt ggtgggcata gaggagccgt tgcccccggc ggggatccgc  
720  
tctgccctgt ttgagaaccg ggccccacca ccccatcagt ctacgcagtc ccagcccctc  
780  
gcctccggca gctttctgca ccagttggac caggtcacga gtcaagtact ggccggattg  
840  
atggaagcgc agaagagcgc tgtccccggg gacttgctca cgcttcctgg taccacagag  
900  
cacttgccgt ttacccggcc cttgaccatg gcagaactga gtcgccttcg tcgccagttt  
960  
atttcgtaca ctaaaatgca tcccaacaat gagaacttgc cgcaactggc caacatgttt  
1020  
cttcagtatt tgagccagag cctgcactaa ccagaggagg taggggggaa gccatggctt  
1080  
ctgatctcca ctccacttta tttctctggg aaaaataggc tgcaggtctc cagagcatat  
1140  
cgatgcagta ctgtactaga gctgttgtga ctgattcact caaactttcc tgcatacccc  
1200  
tgtgccaggc cttgggttta cagcataagt tcagactaaa gagaatggag aactattgtg  
1260  
gtgcaacctg gcaaatccct cagaggacag agctaagggt gacagggatt acctagattg  
1320  
gatcctactt gggctatcac agagcattga ccattggctt ccctcatctg aggcgtggga  
1380  
gagcagactg gatagatgag aattgtttta aaacaattgt gaacagaaac tgaagatggt  
1440  
acagttctac atctgcacct gccctttttt cataccacaa aagtattttt tgagtactgt  
1500  
actgactttt tgctagtttc tattctggga ccgagttcac agataaatcc attggtttgt  
1560  
atccttgaga aactttgttt ttgtggaagt aagaaagtta tctactagat tatttcctct  
1620

aataaaatct tttaaaatag tctactggaa tctctttcac ttaatgttcc ctgtgtaact  
1680  
tcatgtaaca ttttaggtat acttgtcatt gttctgcctt taagtgaagt agtattttga  
1740  
tagttctgag agagtagatg ttttgagcta ctctacagta attatattat gacaatttcc  
1800  
gtaactgttt tgcttcattc tgcatttcaa ggcaaatatc attgtaagct tgtctttcat  
1860  
tcttcattga tttcattgaa caaatggtag gtacc  
1895

<210> 4390

<211> 335

<212> PRT

<213> Homo sapiens

<400> 4390

Arg	Val	Ala	Arg	Gly	Val	Ala	Ala	Glu	Gly	Arg	Ala	Val	Tyr	Val	Val
1				5					10					15	
Asp	Asp	Ala	Ala	Val	Leu	Gly	Ala	Glu	Asp	Pro	Ala	Val	Tyr	Gly	Asp
		20						25					30		
Ser	Ala	Arg	Glu	Lys	Ala	Leu	Arg	Gly	Ala	Leu	Arg	Ala	Ser	Val	Glu
		35					40					45			
Arg	Arg	Leu	Ser	Arg	His	Asp	Val	Val	Ile	Leu	Asp	Ser	Leu	Asn	Tyr
		50				55					60				
Ile	Lys	Gly	Phe	Arg	Tyr	Glu	Leu	Tyr	Cys	Leu	Ala	Arg	Ala	Ala	Arg
65					70				75						80
Thr	Pro	Leu	Cys	Leu	Val	Tyr	Cys	Val	Arg	Pro	Gly	Gly	Pro	Ile	Ala
				85					90					95	
Gly	Pro	Gln	Val	Ala	Gly	Ala	Asn	Glu	Asn	Pro	Gly	Arg	Asn	Val	Ser
			100					105					110		
Val	Ser	Trp	Arg	Pro	Arg	Ala	Glu	Glu	Asp	Gly	Arg	Ala	Gln	Ala	Ala
		115					120					125			
Gly	Ser	Ser	Val	Leu	Arg	Glu	Leu	His	Thr	Ala	Asp	Ser	Val	Val	Asn
		130				135					140				
Gly	Ser	Ala	Gln	Ala	Asp	Val	Pro	Lys	Glu	Leu	Glu	Arg	Glu	Glu	Ser
145					150					155					160
Gly	Ala	Ala	Glu	Ser	Pro	Ala	Leu	Val	Thr	Pro	Asp	Ser	Glu	Lys	Ser
				165					170					175	
Ala	Lys	His	Gly	Ser	Gly	Ala	Phe	Tyr	Ser	Pro	Glu	Leu	Leu	Glu	Ala
			180					185					190		
Leu	Thr	Leu	Arg	Phe	Glu	Ala	Pro	Asp	Ser	Arg	Asn	Arg	Trp	Asp	Arg
		195					200					205			
Pro	Leu	Phe	Thr	Leu	Val	Gly	Ile	Glu	Glu	Pro	Leu	Pro	Pro	Ala	Gly
		210				215					220				
Ile	Arg	Ser	Ala	Leu	Phe	Glu	Asn	Arg	Ala	Pro	Pro	Pro	His	Gln	Ser
225					230					235					240
Thr	Gln	Ser	Gln	Pro	Leu	Ala	Ser	Gly	Ser	Phe	Leu	His	Gln	Leu	Asp
				245					250					255	
Gln	Val	Thr	Ser	Gln	Val	Leu	Ala	Gly	Leu	Met	Glu	Ala	Gln	Lys	Ser
			260					265					270		
Ala	Val	Pro	Gly	Asp	Leu	Leu	Thr	Leu	Pro	Gly	Thr	Thr	Glu	His	Leu
		275					280					285			
Arg	Phe	Thr	Arg	Pro	Leu	Thr	Met	Ala	Glu	Leu	Ser	Arg	Leu	Arg	Arg

290		295		300	
Gln Phe Ile Ser Tyr Thr Lys Met His Pro Asn Asn Glu Asn Leu Pro					
305		310		315	320
Gln Leu Ala Asn Met Phe Leu Gln Tyr Leu Ser Gln Ser Leu His					
	325		330		335

<210> 4391  
 <211> 988  
 <212> DNA  
 <213> Homo sapiens

<400> 4391  
 nagcccttct cctggcccca tggagcctcc ccacgagccc aggggcatcc gagcatgggc  
 60  
 ggcccaatgc agaggggtgac gcctcctcgt ggcattggcca gcgtggggcc ccagagctat  
 120  
 ggaggtggca tgcgaccccc acccaactcc ctgcgcggcc caggcctgcc tgccatgaac  
 180  
 atggggccag gagttcgtgg cccgtggggc agccccagtg gaaactcgat cccctactcc  
 240  
 tcctcatccc ccggcagcta caccggaccc ccaggaggag gtggggccccc tggaacaccc  
 300  
 atcatgccta gccctggaga ttccaccaac tccagcgaaa acatgtacac tatcatgaac  
 360  
 cccatcgggc agggcgccgg cagggctaatt ttcccgctcg gccctggccc ggagggccccc  
 420  
 atggccgcca tgagcgcgat ggagcctcac cacgtgaacg gatccctggg ctcgggcgac  
 480  
 atggacgggt tgccgaagag ttccccggc gccgtggccg gcctgagcaa cggcccgggc  
 540  
 accccgcggg acgacggcga gatggcgggc gccgggacct tcctgcaccc gttcccagac  
 600  
 gaaagctact cgccagggat gaccatgagc gtgtgatggg gcggcagccc cgggcctctc  
 660  
 tgcgggccta ggcttctgcc cagcgccccct gtcagggcg aggggctgag gtcacacctc  
 720  
 gggcacctgg actcctggcc aatcaaggct tgcccagctg ggaggcccca cacgaaagac  
 780  
 tcttaccatt ttattaaaaa cgcaaggacc tcagagacgt tcttttctgt atggaccctt  
 840  
 cctgccattt gtattttgtc ccagagagaa aggctctttg gggggcccct ctccccagga  
 900  
 cgtcaggggg tggggcccat aaataaatgg aagctggttt tggtttttgg taaaaaaaaa  
 960  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 988

<210> 4392  
 <211> 211  
 <212> PRT  
 <213> Homo sapiens

<400> 4392  
 Xaa Pro Phe Ser Trp Pro His Gly Ala Ser Pro Arg Ala Gln Gly His

1				5					10					15	
Pro	Ser	Met	Gly	Gly	Pro	Met	Gln	Arg	Val	Thr	Pro	Pro	Arg	Gly	Met
			20					25					30		
Ala	Ser	Val	Gly	Pro	Gln	Ser	Tyr	Gly	Gly	Gly	Met	Arg	Pro	Pro	Pro
		35					40					45			
Asn	Ser	Leu	Ala	Gly	Pro	Gly	Leu	Pro	Ala	Met	Asn	Met	Gly	Pro	Gly
	50					55					60				
Val	Arg	Gly	Pro	Trp	Ala	Ser	Pro	Ser	Gly	Asn	Ser	Ile	Pro	Tyr	Ser
65					70					75					80
Ser	Ser	Ser	Pro	Gly	Ser	Tyr	Thr	Gly	Pro	Pro	Gly	Gly	Gly	Gly	Pro
				85					90					95	
Pro	Gly	Thr	Pro	Ile	Met	Pro	Ser	Pro	Gly	Asp	Ser	Thr	Asn	Ser	Ser
			100					105					110		
Glu	Asn	Met	Tyr	Thr	Ile	Met	Asn	Pro	Ile	Gly	Gln	Gly	Ala	Gly	Arg
	115						120					125			
Ala	Asn	Phe	Pro	Leu	Gly	Pro	Gly	Pro	Glu	Gly	Pro	Met	Ala	Ala	Met
	130					135						140			
Ser	Ala	Met	Glu	Pro	His	His	Val	Asn	Gly	Ser	Leu	Gly	Ser	Gly	Asp
145					150				155					160	
Met	Asp	Gly	Leu	Pro	Lys	Ser	Ser	Pro	Gly	Ala	Val	Ala	Gly	Leu	Ser
			165					170					175		
Asn	Ala	Pro	Gly	Thr	Pro	Arg	Asp	Asp	Gly	Glu	Met	Ala	Ala	Ala	Gly
		180					185					190			
Thr	Phe	Leu	His	Pro	Phe	Pro	Ser	Glu	Ser	Tyr	Ser	Pro	Gly	Met	Thr
	195						200					205			
Met	Ser	Val													
	210														

&lt;210&gt; 4393

&lt;211&gt; 2171

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4393

gagccacccc gccccggggc ctgggctcgc tgtggactcg tcatggcgac cgagcagagg  
60

cctttccacc tgggtggtgtt cggcgcgtct ggcttcaccg gccagttcgt gaccgaggag  
120

gtggccccggg agcaggtgga cccggagcgg agctcccctg ccctgggcgt ggcgggccgc  
180

tcccgggaga agctgcagcg ggtgctggag aaggcggccc tgaagctggg aagaccaaca  
240

ctgtcatctg aagttggaat catcatctgt gatattgcta atccagcctc gcttgatgaa  
300

atggctaaac aggcaacagt tgctcctcaat tgcgtaggac catatcgggtt ttatggagaa  
360

cctgtaataa aagcatgtat tgaaaatgga gccagttgta tcgacatcag tggagaacct  
420

cagtttctgg aactaatgca actgaagtat catgagaaaag ctgcagacaa aggggtttat  
480

atcattggaa gcagcggcctt tgactccatt ccagcagatc tgggagtaat atataccaga  
540

aataaaatga atggtacttt gactgctgtg gaaagtttcc tgactataca ttcaggacct  
600



gaggggttga gcattcatga tggtagctgg aagtcagcaa tttatggttt tggagatcag  
660  
agtaatttga gaaaactaag aaatgtatca aatctgaaac ctgtcccgtc cattgggtcca  
720  
aaattgaaga gaaggtggcc aatttcttat tgtcgggaac tcaaaggtta ttccattcct  
780  
tttatgggat ctgatgtgtc tgttgtaagg aggactcaac gttacttgta tgaaaattta  
840  
gaggaatcac cagttcagta tgctgcgtat gtaactgtgg gaggcacac ctctgttatt  
900  
aagctgatgt ttgcaggact tttctttttg ttctttgtga ggtttggaa; tggaaggcaa  
960  
cttctcataa aattcccatg gttcttctcc tttggctatt tttcaaaaca aggcccaaca  
1020  
caaaaacaga ttgatgctgc ctcatcagc ctgacattct ttgggtcaagg atacagccaa  
1080  
ggcactggta cagataagaa caaaccaaat atcaaaattt gtactcaggt gaaaggacca  
1140  
gaggctggct atgtggctac ccccatagct atgggtcagg cagccatgac tcttctaagt  
1200  
gatgcttctc atctgcctaa ggcggggcggg gtcttcacac ctggagcagc tttttccaaa  
1260  
acaaagtga ttgacagact caacaaacac ggtattgagt ttagtggtat tagcagctct  
1320  
gaagtctaaa cactggaaga attaaactgaa gtcataacgt gcgtgaatta acagcttctc  
1380  
tatttgatat ttgaaattct tctgtaagcc tgtctgagtg tatgtggaaa cgattgtcaa  
1440  
atctaaaata tctatatatt aaaaagtagg aaattgtcct agcttaccct aaatttcaaa  
1500  
tctgagttga ttttgtgatt ttattgctta taacagagaa ctcatatttg acatattttt  
1560  
ttcattgatg tgttctctgg agattttcac gaatgagctg gcaggtctaa tgggggaggg  
1620  
ggcgtcccag tctgtgttgc agcagcattc tcatcggggg tgcgcacacc atcgttactg  
1680  
tcgggcagta actgccgctt gccttgccgc agtaggaggg aaatctcacc ttcttccac  
1740  
atactgtctt gagcctttgc taaattaaac tgcacttttt gctgtttttg cctagttttt  
1800  
cgccaatcta cactgatttt ggactgttac ctaagttgaa aaataaaagg ttgtcaatcg  
1860  
aatggtgggt taatgttttg acctgccgat gtatttgtat agtggtagaa acatgctgct  
1920  
taagtggcct aacctgtttc ttgccaataa gtaggcttat cattttatct ttacgtaatt  
1980  
ctatatctgt gactaggttt ttaaggatac agcttataag ttgctatcaa ttttactac  
2040  
ctaagcagaa tttttctcta atttactttt tgtattttta ctaggtttta catggaagcc  
2100  
ctaaaataag gcaaaagact ttttcttttg taataagcat ataataaaca cgtatatata  
2160  
tagcaaattg a  
2171

<210> 4394  
 <211> 428  
 <212> PRT  
 <213> Homo sapiens

<400> 4394

```

Met Ala Thr Glu Gln Arg Pro Phe His Leu Val Val Phe Gly Ala Ser
 1           5           10           15
Gly Phe Thr Gly Gln Phe Val Thr Glu Glu Val Ala Arg Glu Gln Val
      20           25           30
Asp Pro Glu Arg Ser Ser Pro Ala Leu Gly Val Ala Gly Arg Ser Arg
      35           40           45
Glu Lys Leu Gln Arg Val Leu Glu Lys Ala Ala Leu Lys Leu Gly Arg
      50           55           60
Pro Thr Leu Ser Ser Glu Val Gly Ile Ile Ile Cys Asp Ile Ala Asn
65           70           75           80
Pro Ala Ser Leu Asp Glu Met Ala Lys Gln Ala Thr Val Val Leu Asn
      85           90           95
Cys Val Gly Pro Tyr Arg Phe Tyr Gly Glu Pro Val Ile Lys Ala Cys
      100          105          110
Ile Glu Asn Gly Ala Ser Cys Ile Asp Ile Ser Gly Glu Pro Gln Phe
      115          120          125
Leu Glu Leu Met Gln Leu Lys Tyr His Glu Lys Ala Ala Asp Lys Gly
      130          135          140
Val Tyr Ile Ile Gly Ser Ser Gly Phe Asp Ser Ile Pro Ala Asp Leu
145          150          155          160
Gly Val Ile Tyr Thr Arg Asn Lys Met Asn Gly Thr Leu Thr Ala Val
      165          170          175
Glu Ser Phe Leu Thr Ile His Ser Gly Pro Glu Gly Leu Ser Ile His
      180          185          190
Asp Gly Thr Trp Lys Ser Ala Ile Tyr Gly Phe Gly Asp Gln Ser Asn
      195          200          205
Leu Arg Lys Leu Arg Asn Val Ser Asn Leu Lys Pro Val Pro Leu Ile
      210          215          220
Gly Pro Lys Leu Lys Arg Arg Trp Pro Ile Ser Tyr Cys Arg Glu Leu
225          230          235          240
Lys Gly Tyr Ser Ile Pro Phe Met Gly Ser Asp Val Ser Val Val Arg
      245          250          255
Arg Thr Gln Arg Tyr Leu Tyr Glu Asn Leu Glu Glu Ser Pro Val Gln
      260          265          270
Tyr Ala Ala Tyr Val Thr Val Gly Gly Ile Thr Ser Val Ile Lys Leu
      275          280          285
Met Phe Ala Gly Leu Phe Phe Leu Phe Phe Val Arg Phe Gly Ile Gly
      290          295          300
Arg Gln Leu Leu Ile Lys Phe Pro Trp Phe Phe Ser Phe Gly Tyr Phe
305          310          315          320
Ser Lys Gln Gly Pro Thr Gln Lys Gln Ile Asp Ala Ala Ser Phe Thr
      325          330          335
Leu Thr Phe Phe Gly Gln Gly Tyr Ser Gln Gly Thr Gly Thr Asp Lys
      340          345          350
Asn Lys Pro Asn Ile Lys Ile Cys Thr Gln Val Lys Gly Pro Glu Ala
      355          360          365
Gly Tyr Val Ala Thr Pro Ile Ala Met Val Gln Ala Ala Met Thr Leu

```

	370					375					380				
Leu	Ser	Asp	Ala	Ser	His	Leu	Pro	Lys	Ala	Gly	Gly	Val	Phe	Thr	Pro
385					390					395					400
Gly	Ala	Ala	Phe	Ser	Lys	Thr	Lys	Leu	Ile	Asp	Arg	Leu	Asn	Lys	His
				405					410					415	
Gly	Ile	Glu	Phe	Ser	Val	Ile	Ser	Ser	Ser	Glu	Val				
			420					425							

```
<210> 4395
<211> 1893
<212> DNA
<213> Homo sapiens
```

<400> 4395					
natgtgtccc	caattcttga	aggaaaaaga	gagctgtggg	cttcaggggc	gactcccttc
60					
acatccgtgg	tatctgtctc	tccctgcccc	atgccaaggc	ccaggaggtg	tgaatggctc
120					
ccttctcttc	tgcaggcgct	gaggatcacg	catcctgtga	ctctcccttg	tcccccgcca
180					
ccctctgaac	cactggccac	catggctact	tcaaagttgc	ccgtgggtgcc	tggggaggag
240					
gaaaacacca	tccttatggc	caaggaaagg	ctggaggccc	tgcgcacagc	ctttgagtcg
300					
ggtgacctcc	cccaggccgc	ctctcacctc	caggagctgc	tggcctccac	ggaaagcatc
360					
cgcttgagg	tgggcgtcac	gggcgagtcg	ggcgcgggca	agtcctccct	catcaatgcc
420					
ctgcgtggcc	tggaggccga	ggaccctggc	gcggctctca	cgggcgtcat	ggagaccacg
480					
atgcaaccgt	cgccctatcc	acaccacag	ttccctgacg	tgaccctctg	ggacctgcca
540					
ggagccggct	ctccaggctg	cccggctgac	aagtacctaa	agcaggtaga	cttcagccgc
600					
tatgacttct	tcctgctggt	ctccccccgc	cgctgcgggg	ccgtcgagac	ccgcctggcc
660					
gctgagatcc	tgtgccaggg	caagaagttc	tactttgtgc	gcaccaaggt	ggacgaggac
720					
ctggcggcca	cgcgcaccca	gcggccgtcg	ggcttcagag	aggccgctgt	cctgcaggag
780					
atccgagacc	actgtgccga	gcggctgcgg	gaggccggcg	tggetgaccc	tgcctcttc
840					
ctgggtgtcca	acctctcgcc	ggcccgttac	gactttccca	cgctgggtgtc	cacctgggag
900					
cacgacctgc	cctcccaccg	gcgccacgct	ggcctgctgt	cgctccccga	catctcgctg
960					
gaggccttgc	agaagaagaa	ggccatgctt	caagagcaag	tcctcaagac	cgccctgggtg
1020					
ttgggcgtca	tccaggccct	gccggctcca	gggctggcgg	ccgcctacga	tgatgcgttg
1080					
ctcatccact	cactgcgtgg	ctaccaccgc	agctttggtc	tggacgacga	ctcgctggcc
1140					
aagctggccg	agcaggtggg	caaacaggca	ggtgacctgc	gctcggtcat	ccgctcccca
1200					

ctggccaacg aggtctcgcc tgagactgtc ctgcggtctt attcccagtc gtccgacggc  
 1260  
 gccatgctggg tggcccgccg ctttgagagg ggcattccctg tgtttgggac gctggtggct  
 1320  
 ggcggcatca gctttggcgc tgtctacacc atgctccagg gctgcctcaa cgagatggct  
 1380  
 gaggacgccc agcgtgtccg catcaaggcc ctggaggatg acgagccgca gccggaggtc  
 1440  
 agcttggaag tggccagtga caatggcgtg gaaaaggggg gctccgggga gggagggtggg  
 1500  
 gaggaagccc cactctcaac ctgcaggaag ctcggcctcc ttcttaagta cattctggac  
 1560  
 agctggaaga aacacgactc agaagagaaa taaagagtgc agccccgccc cctgcctca  
 1620  
 ccacaaaact aagtcttaac aaaatccaaa ttaccaacaa aaaaggccga tgtggtgaat  
 1680  
 gtgagggctg cagttgcctg gggggtgggt gtggaggagg cctgtgtccc tggcaggcag  
 1740  
 gggagccggc gtcttgggca gggcaaagga gggggcactg gggaggggag gaggagggca  
 1800  
 ggtggggcca gggccaacag ggggtgtagt aaaggggaca ggagtgccct ggagagggag  
 1860  
 gttggagaca tggatggtgg gcccgagggt ccc  
 1893

&lt;210&gt; 4396

&lt;211&gt; 463

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4396

Met	Ala	Thr	Ser	Lys	Leu	Pro	Val	Val	Pro	Gly	Glu	Glu	Glu	Asn	Thr
1				5					10					15	
Ile	Leu	Met	Ala	Lys	Glu	Arg	Leu	Glu	Ala	Leu	Arg	Thr	Ala	Phe	Glu
			20					25					30		
Ser	Gly	Asp	Leu	Pro	Gln	Ala	Ala	Ser	His	Leu	Gln	Glu	Leu	Leu	Ala
		35					40					45			
Ser	Thr	Glu	Ser	Ile	Arg	Leu	Glu	Val	Gly	Val	Thr	Gly	Glu	Ser	Gly
	50					55					60				
Ala	Gly	Lys	Ser	Ser	Leu	Ile	Asn	Ala	Leu	Arg	Gly	Leu	Glu	Ala	Glu
65					70					75					80
Asp	Pro	Gly	Ala	Ala	Leu	Thr	Gly	Val	Met	Glu	Thr	Thr	Met	Gln	Pro
			85						90					95	
Ser	Pro	Tyr	Pro	His	Pro	Gln	Phe	Pro	Asp	Val	Thr	Leu	Trp	Asp	Leu
		100						105					110		
Pro	Gly	Ala	Gly	Ser	Pro	Gly	Cys	Pro	Ala	Asp	Lys	Tyr	Leu	Lys	Gln
	115					120						125			
Val	Asp	Phe	Ser	Arg	Tyr	Asp	Phe	Phe	Leu	Leu	Val	Ser	Pro	Arg	Arg
	130					135					140				
Cys	Gly	Ala	Val	Glu	Thr	Arg	Leu	Ala	Ala	Glu	Ile	Leu	Cys	Gln	Gly
145					150					155					160
Lys	Lys	Phe	Tyr	Phe	Val	Arg	Thr	Lys	Val	Asp	Glu	Asp	Leu	Ala	Ala
				165					170					175	
Thr	Arg	Thr	Gln	Arg	Pro	Ser	Gly	Phe	Arg	Glu	Ala	Ala	Val	Leu	Gln

```

      180      185      190
Glu Ile Arg Asp His Cys Ala Glu Arg Leu Arg Glu Ala Gly Val Ala
      195      200      205
Asp Pro Arg Ile Phe Leu Val Ser Asn Leu Ser Pro Ala Arg Tyr Asp
      210      215      220
Phe Pro Thr Leu Val Ser Thr Trp Glu His Asp Leu Pro Ser His Arg
      225      230      235      240
Arg His Ala Gly Leu Ser Leu Pro Asp Ile Ser Leu Glu Ala Leu
      245      250      255
Gln Lys Lys Lys Ala Met Leu Gln Glu Gln Val Leu Lys Thr Ala Leu
      260      265      270
Val Leu Gly Val Ile Gln Ala Leu Pro Val Pro Gly Leu Ala Ala Ala
      275      280      285
Tyr Asp Asp Ala Leu Leu Ile His Ser Leu Arg Gly Tyr His Arg Ser
      290      295      300
Phe Gly Leu Asp Asp Asp Ser Leu Ala Lys Leu Ala Glu Gln Val Gly
      305      310      315      320
Lys Gln Ala Gly Asp Leu Arg Ser Val Ile Arg Ser Pro Leu Ala Asn
      325      330      335
Glu Val Ser Pro Glu Thr Val Leu Arg Leu Tyr Ser Gln Ser Ser Asp
      340      345      350
Gly Ala Met Arg Val Ala Arg Ala Phe Glu Arg Gly Ile Pro Val Phe
      355      360      365
Gly Thr Leu Val Ala Gly Gly Ile Ser Phe Gly Ala Val Tyr Thr Met
      370      375      380
Leu Gln Gly Cys Leu Asn Glu Met Ala Glu Asp Ala Gln Arg Val Arg
      385      390      395      400
Ile Lys Ala Leu Glu Asp Asp Glu Pro Gln Pro Glu Val Ser Leu Glu
      405      410      415
Val Ala Ser Asp Asn Gly Val Glu Lys Gly Gly Ser Gly Glu Gly Gly
      420      425      430
Gly Glu Glu Ala Pro Leu Ser Thr Cys Arg Lys Leu Gly Leu Leu Leu
      435      440      445
Lys Tyr Ile Leu Asp Ser Trp Lys Lys His Asp Ser Glu Glu Lys
      450      455      460

```

&lt;210&gt; 4397

&lt;211&gt; 2543

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4397

```

nccggccccc gctccgggga gcagagtccg gagcgggatc cgcgcccccac aggttgcgag
60
gggcggtgtt gaagaatgtg tgggcgaaca tcctgtcact tacctagaga tggtctcacg
120
agagcttgcg cctaccagga tcggcggggc cagcagcggc tcccggagtg gagggaccct
180
gataagtact gccctcttta caacaagagt cctcaatcca acagcccagt gcttctgtct
240
cgactgcact ttgagaagga tgcagactca tctgagcgta tcattgctcc catgcgctgg
300
ggcttggtcc cttcttggtt caaagaaagt gatccttcca agctgcagtt caatactacc
360

```

aactgtcgtgta gtgataccgt aatggagaaa cggtcattta aggtgcctct gggaaagggg  
420  
agacgctgtg tcgttttagc agatggattc tatgagtggc agcgatgtca gggaaacaaac  
480  
cagaggcagc catacttcat ctattttcct caaatcaaga cagagaagtc aggtagcatt  
540  
ggtgctgcag atagtcctga gaactgggag aaagtctggg acaactggag gctgctgaca  
600  
atggccggga tctttgactg ctgggagccc ccagagggag gagatgtcct gtattcctat  
660  
accatcatca cagtggattc ctgcaaaggc ttgagtgaca tccaccacag gatgcctgcc  
720  
atattagatg gagaggaggc agtttctaaa tggcttgact ttggtgaagt ctcaactcag  
780  
gaagctctga aattaatcca cccaacagag aacatcacct tccatgcagt ctcttctgtg  
840  
gtgaacaact cgcgaaacaa cactcctgag tgtctggctc ctgtcgactt ggtgggtcaaa  
900  
aaggagctca gggcaagtgg cagtagccag aggatgttgc agtgggtggc cacaaagtca  
960  
cccaaaaagg aagactcaaa aacacctcaa aaggaagagt cagatgttcc ccagtggctc  
1020  
agtcagttcc tgcagaagag tccactcccc accaagagag gcactgcagg actcctagag  
1080  
caatggctga agcgggagaa ggaggaggaa cctgtggcca agcgtcctta cagccagtga  
1140  
cacaggactt tcagagacca aggccagggt ctgctgcact gctgttctga taataggttc  
1200  
ttaacattgt atgtatatgt gtttgctttg ggaggagggt gcactgtgtt agttgacagt  
1260  
tgtgggctca tgtagtcttt tttgccatga gtaggagccc ctagtggggc tgggtggacag  
1320  
ctttggaaga ggtgtcctgc tgctgttacc agccatgtgg gccccatagg ggcactgcgc  
1380  
ctgctgccct ttcctggcag ggctgggtga gtcttcctc aaagcatgcc ttaccagct  
1440  
gggaagtctc tgcctgatc tggactcct tgtagtaagc tgttttctgc tcagccactg  
1500  
ggctctttca cttttttagt tcttaaaaat ttatttttaa gttctaaaat aaaataaaaa  
1560  
taagttctta aaatttattt ttttctgaa taaattgtat ttggtaaact tctgcctaca  
1620  
ttttggaaag tgatgctggg ggggaaagt ctagatctta cttgggttct tctagaatca  
1680  
gtcttcagga atggattttg tcacaaatgg ggcattgggg ctttctgagg aaataactac  
1740  
aagtcttggg ggtgggctcc ttattatgtt tctttttctt tcattcttga tacttggaag  
1800  
tcgtctgaat ccttttagctt caaaccagcc tgagtttgag tgcttgccgt agcagaaact  
1860  
atccttacca cagggtgggaa ggaaaggacc agtttctagc agtgtcgggc cactcctctt  
1920  
tcgaacatcc ctaaggggag cattcacaaa agctgtccca agcagctgga agaaaacagc  
1980

ttccgagatg accaggagga ctgggcggcg ccgagcccag aacgctcctg gcgcagcacc  
 2040  
 gttggcggtg gccgattgct gctggtgggg ggcgggggtg caggccccag tctctatgca  
 2100  
 aatcagggat cagaagatcg gaatttccac caatcagcgg gaagcctcgg ccctgtaact  
 2160  
 gctaattggga gacagcagcg ccacgccaca ggcttttccc ctggtttcgg gaggggtggg  
 2220  
 gagccaggtg gggctcccgc ccagaccctt tcccagaggtc cgccctctcc gccttttctc  
 2280  
 taaattcttc ttttgagtgc cctcccttcc ggttgagagg cgggggttgg cccttagttg  
 2340  
 tacactcagt caccctgcac tgtggaggcg ggggcctccc ttgtggactg atttgcgtagg  
 2400  
 gatttggttg ttttattaag agatttaaaa aattcagatg acttactagt atgactgttt  
 2460  
 tgtcatattt gcttccaggt taataaatga caaaaatgaa aaaaaaaaaa aaaaaaaaaa  
 2520  
 aaaaaaaaaa aaaaaaaaaa aaa  
 2543

&lt;210&gt; 4398

&lt;211&gt; 354

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4398

Met	Cys	Gly	Arg	Thr	Ser	Cys	His	Leu	Pro	Arg	Asp	Val	Leu	Thr	Arg
1				5					10					15	
Ala	Cys	Ala	Tyr	Gln	Asp	Arg	Arg	Gly	Gln	Gln	Arg	Leu	Pro	Glu	Trp
			20					25					30		
Arg	Asp	Pro	Asp	Lys	Tyr	Cys	Pro	Ser	Tyr	Asn	Lys	Ser	Pro	Gln	Ser
		35					40					45			
Asn	Ser	Pro	Val	Leu	Leu	Ser	Arg	Leu	His	Phe	Glu	Lys	Asp	Ala	Asp
	50					55					60				
Ser	Ser	Glu	Arg	Ile	Ile	Ala	Pro	Met	Arg	Trp	Gly	Leu	Val	Pro	Ser
65				70					75					80	
Trp	Phe	Lys	Glu	Ser	Asp	Pro	Ser	Lys	Leu	Gln	Phe	Asn	Thr	Thr	Asn
			85					90					95		
Cys	Arg	Ser	Asp	Thr	Val	Met	Glu	Lys	Arg	Ser	Phe	Lys	Val	Pro	Leu
			100					105					110		
Gly	Lys	Gly	Arg	Arg	Cys	Val	Val	Leu	Ala	Asp	Gly	Phe	Tyr	Glu	Trp
		115					120					125			
Gln	Arg	Cys	Gln	Gly	Thr	Asn	Gln	Arg	Gln	Pro	Tyr	Phe	Ile	Tyr	Phe
	130					135					140				
Pro	Gln	Ile	Lys	Thr	Glu	Lys	Ser	Gly	Ser	Ile	Gly	Ala	Ala	Asp	Ser
145					150				155					160	
Pro	Glu	Asn	Trp	Glu	Lys	Val	Trp	Asp	Asn	Trp	Arg	Leu	Leu	Thr	Met
			165					170					175		
Ala	Gly	Ile	Phe	Asp	Cys	Trp	Glu	Pro	Glu	Gly	Gly	Asp	Val	Leu	
		180					185					190			
Tyr	Ser	Tyr	Thr	Ile	Ile	Thr	Val	Asp	Ser	Cys	Lys	Gly	Leu	Ser	Asp
	195					200					205				
Ile	His	His	Arg	Met	Pro	Ala	Ile	Leu	Asp	Gly	Glu	Glu	Ala	Val	Ser

210	215	220
Lys Trp Leu Asp Phe Gly Glu Val Ser Thr Gln Glu Ala Leu Lys Leu		
225	230	235
Ile His Pro Thr Glu Asn Ile Thr Phe His Ala Val Ser Ser Val Val		240
	245	250
Asn Asn Ser Arg Asn Asn Thr Pro Glu Cys Leu Ala Pro Val Asp Leu		255
	260	265
Val Val Lys Lys Glu Leu Arg Ala Ser Gly Ser Ser Gln Arg Met Leu		270
	275	280
Gln Trp Leu Ala Thr Lys Ser Pro Lys Lys Glu Asp Ser Lys Thr Pro		285
	290	295
Gln Lys Glu Glu Ser Asp Val Pro Gln Trp Ser Ser Gln Phe Leu Gln		300
305	310	315
Lys Ser Pro Leu Pro Thr Lys Arg Gly Thr Ala Gly Leu Leu Glu Gln		320
	325	330
Trp Leu Lys Arg Glu Lys Glu Glu Glu Pro Val Ala Lys Arg Pro Tyr		335
	340	345
Ser Gln		350

&lt;210&gt; 4399

&lt;211&gt; 723

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4399

gtgcaccgca tcaagcgcga gtgcgagcgc gacatccgca ggctgatgga tgagatcaaa  
60

gggaaagacc gtgtgattct ggccttgag aaggaacttg gcgtgcaggc tgggcagacc  
120

cagaagctgc ttctgcagaa agaggctttg gatgagcagc tggttcaggt caaggaggcc  
180

gagcggcacc acagtagtcc aaagagagag ctcccgcccg ggatcgggga catggtggag  
240

ctcatgggag tccaggatca acatatggac gagcgagatg tgaggcgatt tcaactaaaa  
300

attgctgaac tgaattcagt gatacggaaag ctggaagaca gaaatacgct gttggcagat  
360

gagaggaatg aactgctgaa acgctcacga gagaccgagg ttcagctgaa gcccctgggtg  
420

gagaagaaca agcggatgaa caagaagaat gaggatctgt tgcagagtat ccagaggatg  
480

gaggagaaaa tcaagaacct cacgcgggaa aacgtggaaa tgaaagaaaa gctgtcagcg  
540

caggcgtctc tgaagcggca tacctccttg aatgacctca gcctgacgag ggatgagcag  
600

gagatcgagt tcctgaggct gcagggtgctg gagcagcagc acgtcattga cgacctctca  
660

ctggagagag aacggctgtt gcgctccaaa aggcacgag ggaaaagtct gaaaccgccc  
720

aag

723

&lt;210&gt; 4400



<211> 241  
 <212> PRT  
 <213> Homo sapiens

<400> 4400

```

Val His Arg Ile Lys Arg Glu Cys Glu Arg Asp Ile Arg Arg Leu Met
 1           5           10           15
Asp Glu Ile Lys Gly Lys Asp Arg Val Ile Leu Ala Leu Glu Lys Glu
      20           25           30
Leu Gly Val Gln Ala Gly Gln Thr Gln Lys Leu Leu Leu Gln Lys Glu
      35           40           45
Ala Leu Asp Glu Gln Leu Val Gln Val Lys Glu Ala Glu Arg His His
      50           55           60
Ser Ser Pro Lys Arg Glu Leu Pro Pro Gly Ile Gly Asp Met Val Glu
65           70           75           80
Leu Met Gly Val Gln Asp Gln His Met Asp Glu Arg Asp Val Arg Arg
      85           90           95
Phe Gln Leu Lys Ile Ala Glu Leu Asn Ser Val Ile Arg Lys Leu Glu
      100          105          110
Asp Arg Asn Thr Leu Leu Ala Asp Glu Arg Asn Glu Leu Leu Lys Arg
      115          120          125
Ser Arg Glu Thr Glu Val Gln Leu Lys Pro Leu Val Glu Lys Asn Lys
      130          135          140
Arg Met Asn Lys Lys Asn Glu Asp Leu Leu Gln Ser Ile Gln Arg Met
145          150          155          160
Glu Glu Lys Ile Lys Asn Leu Thr Arg Glu Asn Val Glu Met Lys Glu
      165          170          175
Lys Leu Ser Ala Gln Ala Ser Leu Lys Arg His Thr Ser Leu Asn Asp
      180          185          190
Leu Ser Leu Thr Arg Asp Glu Gln Glu Ile Glu Phe Leu Arg Leu Gln
      195          200          205
Val Leu Glu Gln Gln His Val Ile Asp Asp Leu Ser Leu Glu Arg Glu
      210          215          220
Arg Leu Leu Arg Ser Lys Arg His Arg Gly Lys Ser Leu Lys Pro Pro
225          230          235          240
Lys

```

<210> 4401  
 <211> 1131  
 <212> DNA  
 <213> Homo sapiens

<400> 4401

```

nnccccgggta aacctctcta gccattctc aataaagatt cacatagcta tagcacgact
60
atgccccatga tgatgtatca ttttatactt actggaatcc aagccaggct ggtttctaata
120
agaaagggtga tccaaggaat cacatgtgag aaaaacagtg ctctagcaaa gggatcctcg
180
aatcaaaggc atcgagaata tttttaaata ctaatgcctt ttgctatatt cgggggaaag
240
gctggattgt gctaccgacg ctcaatatcc atgcaccccg gatctggaag actttgcccgg
300

```

cctgcagatt ggccttaaga gaaggacgga gccacatact gctgacggcc cagaactggc  
 360  
 agagagaagg ttgccatggc tgctgttgac agtttctacc tcttgtacag ggaaatcgcc  
 420  
 aggtcttgca attgctatat ggaagctcta gctttgggtg gagcctggta tacggccaga  
 480  
 aaaagcatca ctgtcatctg tgacttttac agcctgatca ggctgcattt tatccccgc  
 540  
 ctggggagca gagcagactt gatcaagcag tatggaagat gggccgttgt cagcggtgca  
 600  
 acagatggga ttggaaaagc ctacgctgaa gagttagcaa gccgaggtct caatataatc  
 660  
 ctgattagtc ggaacgagga gaagttgcag gttgttgcta aagacatagc cgacacgtac  
 720  
 aaagtggaaa ctgatattat agttgcggac ttcagcagcg gtcgtgagat ctaccttcca  
 780  
 attcgagaag ccctgaagga caaagacgtt ggcattcttg taaataacgt ggggtgtgtt  
 840  
 tatccctacc cgcagtattt cactcagctg tccgaggaca agctctggga catcataaat  
 900  
 gtgaacattg ccgccgctag tttgatggtc catgttgtgt taccgggaat ggtggagaga  
 960  
 aagaaaggtg ccatcgtcac gatctcttct gggctcctgc tgcaaccac tcctcagctg  
 1020  
 gctgcatttt ctgcttctaa ggcttattta gaccatttca gcagagcctt gcaatatgaa  
 1080  
 tatgcctcta aaggaatctt tgtacagagt ctaatncctt tctatgtagc c  
 1131

&lt;210&gt; 4402

&lt;211&gt; 252

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4402

Met	Ala	Ala	Val	Asp	Ser	Phe	Tyr	Leu	Leu	Tyr	Arg	Glu	Ile	Ala	Arg
1				5					10					15	
Ser	Cys	Asn	Cys	Tyr	Met	Glu	Ala	Leu	Ala	Leu	Val	Gly	Ala	Trp	Tyr
		20						25				30			
Thr	Ala	Arg	Lys	Ser	Ile	Thr	Val	Ile	Cys	Asp	Phe	Tyr	Ser	Leu	Ile
		35				40					45				
Arg	Leu	His	Phe	Ile	Pro	Arg	Leu	Gly	Ser	Arg	Ala	Asp	Leu	Ile	Lys
	50					55				60					
Gln	Tyr	Gly	Arg	Trp	Ala	Val	Val	Ser	Gly	Ala	Thr	Asp	Gly	Ile	Gly
65				70					75					80	
Lys	Ala	Tyr	Ala	Glu	Leu	Ala	Ser	Arg	Gly	Leu	Asn	Ile	Ile	Leu	
			85					90					95		
Ile	Ser	Arg	Asn	Glu	Glu	Lys	Leu	Gln	Val	Val	Ala	Lys	Asp	Ile	Ala
			100					105					110		
Asp	Thr	Tyr	Lys	Val	Glu	Thr	Asp	Ile	Ile	Val	Ala	Asp	Phe	Ser	Ser
		115				120					125				
Gly	Arg	Glu	Ile	Tyr	Leu	Pro	Ile	Arg	Glu	Ala	Leu	Lys	Asp	Lys	Asp
	130					135				140					
Val	Gly	Ile	Leu	Val	Asn	Asn	Val	Gly	Val	Phe	Tyr	Pro	Tyr	Pro	Gln

145		150		155		160									
Tyr	Phe	Thr	Gln	Leu	Ser	Glu	Asp	Lys	Leu	Trp	Asp	Ile	Ile	Asn	Val
			165						170					175	
Asn	Ile	Ala	Ala	Ala	Ser	Leu	Met	Val	His	Val	Val	Leu	Pro	Gly	Met
			180						185					190	
Val	Glu	Arg	Lys	Lys	Gly	Ala	Ile	Val	Thr	Ile	Ser	Ser	Gly	Leu	Leu
			195						200				205		
Leu	Gln	Pro	Thr	Pro	Gln	Leu	Ala	Ala	Phe	Ser	Ala	Ser	Lys	Ala	Tyr
			210					215				220			
Leu	Asp	His	Phe	Ser	Arg	Ala	Leu	Gln	Tyr	Glu	Tyr	Ala	Ser	Lys	Gly
225					230					235					240
Ile	Phe	Val	Gln	Ser	Leu	Xaa	Pro	Phe	Tyr	Val	Ala				
			245						250						

<210> 4403  
 <211> 4237  
 <212> DNA  
 <213> Homo sapiens

<400> 4403  
 nggatccaag ccatattgat tgggctgcat tggccaagc ttggattgcc cacaagagaa  
 60  
 gcttcaggac agcaaagcat ggtagaacia ccaccaggaa tgatgccaaa tggacaagat  
 120  
 atgtctacaa tggaatctgg tccaaacaat catgggaatt tccaagggga ttcaaacttc  
 180  
 aacagaatgt ggcaaccaga atgggggaatg catcagcaac cccacacccc cctccagat  
 240  
 cagccatgga tgccaccaac accaggccca atggacattg ttcctccttc tgaagacagc  
 300  
 aacagtcagg acagtgggga atttgccctt gacaacaggc atatatttaa ccagaacaat  
 360  
 caaactttg gtggaccacc cgataatttt gcagtggggc cagtgaacca gtttgactat  
 420  
 cagcatgggg ctgcttttgg tccaccgcaa ggtggatttc atcctcctta ttggcaacca  
 480  
 ggacctccag gacctccagc acctccccag aatcgaagag aaaggccatc atcattcagg  
 540  
 gatcgtcagc gttcacctat tgcacttctt gtgaagcagg agcctccaca aattgacgca  
 600  
 gtaaaacgca ggactcttcc cgcttggatt cgcgagggtc ttgaaaaaat ggaacgtgaa  
 660  
 aagcagaaga aattggagaa agaaagaatg gaacaacaac gttcacaatt gtccaaaaaa  
 720  
 aaaaaaaagg ccacagaaga tgctgaagga ggggatggcc ctgctttacc tcagagaagt  
 780  
 aaatttgata gtgatgagga agaagaagac actgaaaatg ttgaggctgc aagtagtggg  
 840  
 aaagtcacca gaagtccatc cccagttcct caagaagagc acagtgaccc tgagatgact  
 900  
 gaagaggaga aagagtatca aatgatgttg ctgacaaaaa tgcttctaac agaaattctg  
 960  
 ctggatgtca cagatgaaga aatttattac gtagccaaag atgcacaccg caaagcaacg  
 1020

aaagctcctg caaaacagct ggcacagtcc agtgcactgg cttccctcac tggactcggg  
1080  
ggactgggtg gttatggatc aggagacagt gaagatgaga ggagtgcagc aggatctgag  
1140  
tcattctgaca ctgatgatga agaattacgg catcgaatcc ggcaaaaaca ggaagctttt  
1200  
tggagaaaag aaaaagaaca gcagctatta catgataaac agatggaaga agaaaagcag  
1260  
caaacagaaa gggttacaaa agagatgaat gaatttatcc ataaagagca aaatagttta  
1320  
tcactactag aagcaagaga agcagacggg gatgtgggta atgaaaagaa gagaactcca  
1380  
aatgaaacca catcagtttt agaaccacaaa aaagagcata aagaaaaaga aaaacaagga  
1440  
aggagtaggt cgggaagtgc tagtagtggt agttccagta gcaatagcag aactagtagt  
1500  
actagtagta ctgtctctag ctcttcatac agttctagct caggtagtag tctacttct  
1560  
tctcgggtctt cttctcctaa aaggaaaaag agacacagta ggagtagatc tccaacaatc  
1620  
aaagctagac gtagcaggag tagaagctat tctcgagaa ttaaaataga gagcaatagg  
1680  
gctagggtaa agattagaga tagaaggaga tctaatagaa atagcattga aagagaaaga  
1740  
cgacgaaatc ggagtccttc ccgagagaga cgtagaagta gaagtcgctc aagggataga  
1800  
cgaaccaatc gtgccagtcg cagtaggagt cgagataggc gtaaaattga tgatcaacgt  
1860  
ggaaatctta gtgggaacag tcataagcat aaaggtagg ctaaagaaca agagaggaaa  
1920  
aaggagagga gtcgaagtat agataaagat aggaaaaaga aagacaaaga aagggaacgt  
1980  
gaacaggata aaagaaaaga gaaacaaaaa agggaagaaa aagattttta gttcagtagt  
2040  
caggatgata gattaaaaag gaaacgagaa agtgaaagaa cattttctag gagtggttct  
2100  
atatctgtta aaatcataag acatgattct agacaggata gtaagaaaag tactaccaa  
2160  
gatagtaaaa aacattcagg ctctgattct agtggaagga gcagttctga gtctccagga  
2220  
agtagcaaag aaaagaaggc taagaagcct aaacatagtc gatcgcgatc cgtggagaaa  
2280  
tctcaaaggt ctggtaagaa ggcaagccgc aaacacaagt ctaagtcccg atcaaggtag  
2340  
tatacttttt aaagtatttt gtctgatttt taaaaaaaat tgactgaatt tattcaaagt  
2400  
tgaaagtgtc ctttctctct ctctttaata aactcagttt ggtacttgat aaataatcat  
2460  
agtcttaaat gttagaaatc ctatataata ttattttatt aaaattgcag atttttaatt  
2520  
taaaatacat ttttattttt aaattttgtc ttttcccttt tttttcagat caacaacccc  
2580  
tccccgtcgt aaacgctgag gaatgatgtg gcaagaatgc catgatgttc tttaaaaaaa  
2640

ttccatgagt ttttaagggt tgtctcatta tagaggcaca ttgtggctgt gtaggtgaaa  
2700  
ccagaatctt tttttttttt aatctgtaaa taggtgtact ttttccaatg ctgctccaag  
2760  
ttacttaata ggatttcttt gtattacgtt tttttcaaaa aatatagtgc ataataagac  
2820  
tataaacatg ccattctctt tcagctgtaa tgttcttaaa attattcttg aatgtactgt  
2880  
gatgtcaata aagctcttta gttcattttt gttaaactct tgcaccttaa ttttatgggt  
2940  
ttaatctaag gaacgtactt ttataaaaag gcagctggaa ttttgataa caggtttta  
3000  
aggtaccttc tctcacctcc cccaaagaaa atggttttta cttaatagtt tgtcaaagtt  
3060  
tgtaaatgt acccatggac ttttgccaga ttccaacttt aagggtatga aagagggcta  
3120  
gaaatagacc tttacttttc atttggaagt atttgacaac tttctaaact tttcttcta  
3180  
ttttggggat tttcaagtaa tatattctct gtgtgtataa cgtgtgggtc actcctgtaa  
3240  
aatgaaattg ctggaatcaa tcaagccagt gcaccagtag agttatttgt aaggaacgat  
3300  
tgtgtttgac agtaatagtc aagtctggaa ctatattcta cagtcacca cttctgtttt  
3360  
agaagcattt tgaaacactt tttgggggta tagaaataag actcatgatt atatatat  
3420  
atttatattt ttaaagtata atatgacctc aaatcaatgg aggaatgctg tattatgcag  
3480  
gtttgtgtca atttcatgac attaaaattg tctgattttg tccgtttctt aaaattatga  
3540  
ttagtgagtg gtctaacagt ttaaggcatt gataacttac aagtagagtg gggctctcaa  
3600  
agcattttta ctcagttgct ttaggggtcca tttttttatg taatcactta ctcagtgata  
3660  
aatgaatctc tgaaaacaaa tgcttttaca ttttaattta aaaagaaaac aggtgcaggc  
3720  
cacagaaaag ttttaaagta tgccttctta ccagcaatag ttcattttta aaatcatgcc  
3780  
agatttttgc caagatcagt gtttcctcaa catgaagata gaaatagatt tgtatagtgt  
3840  
gctcttgtag ctctacatag attattatat aattttgagc agttacacat ttatctaaag  
3900  
gaaataaatc aactgtgaat aaatgcatgt ttacaaaaat ggctgtttac agtgcattta  
3960  
gttctgatat ttataaagat gacatttcac agaataactt taaaatagtt tgaaattcta  
4020  
tatagtttag acatcgatca catctggaga caaaataaaa tgtgcaatat tttttatgta  
4080  
ggcgagctaa cacagtgtac ctaattgcag aattatctga ttaatttgta atagataagt  
4140  
tgtataacat tttcatatct taaaatgttt tttagatcaa tcttgaagtg aaatattttc  
4200  
aaaataaaat tctacagaaa aaaaaaaaaa aaaaaaa  
4237

&lt;210&gt; 4404

&lt;211&gt; 779

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4404

```

Xaa Ile Gln Ala Ile Leu Ile Gly Leu His Trp Pro Lys Leu Gly Leu
 1           5           10           15
Pro Thr Arg Glu Ala Ser Gly Gln Gln Ser Met Val Glu Gln Pro Pro
          20           25           30
Gly Met Met Pro Asn Gly Gln Asp Met Ser Thr Met Glu Ser Gly Pro
          35           40           45
Asn Asn His Gly Asn Phe Gln Gly Asp Ser Asn Phe Asn Arg Met Trp
          50           55           60
Gln Pro Glu Trp Gly Met His Gln Gln Pro Pro His Pro Pro Pro Asp
65          70          75          80
Gln Pro Trp Met Pro Pro Thr Pro Gly Pro Met Asp Ile Val Pro Pro
          85          90          95
Ser Glu Asp Ser Asn Ser Gln Asp Ser Gly Glu Phe Ala Pro Asp Asn
          100          105          110
Arg His Ile Phe Asn Gln Asn Asn His Asn Phe Gly Gly Pro Pro Asp
          115          120          125
Asn Phe Ala Val Gly Pro Val Asn Gln Phe Asp Tyr Gln His Gly Ala
          130          135          140
Ala Phe Gly Pro Pro Gln Gly Gly Phe His Pro Pro Tyr Trp Gln Pro
145          150          155          160
Gly Pro Pro Gly Pro Pro Ala Pro Pro Gln Asn Arg Arg Glu Arg Pro
          165          170          175
Ser Ser Phe Arg Asp Arg Gln Arg Ser Pro Ile Ala Leu Pro Val Lys
          180          185          190
Gln Glu Pro Pro Gln Ile Asp Ala Val Lys Arg Arg Thr Leu Pro Ala
          195          200          205
Trp Ile Arg Glu Gly Leu Glu Lys Met Glu Arg Glu Lys Gln Lys Lys
          210          215          220
Leu Glu Lys Glu Arg Met Glu Gln Gln Arg Ser Gln Leu Ser Lys Lys
225          230          235          240
Lys Lys Lys Ala Thr Glu Asp Ala Glu Gly Gly Asp Gly Pro Arg Leu
          245          250          255
Pro Gln Arg Ser Lys Phe Asp Ser Asp Glu Glu Glu Glu Asp Thr Glu
          260          265          270
Asn Val Glu Ala Ala Ser Ser Gly Lys Val Thr Arg Ser Pro Ser Pro
          275          280          285
Val Pro Gln Glu Glu His Ser Asp Pro Glu Met Thr Glu Glu Glu Lys
          290          295          300
Glu Tyr Gln Met Met Leu Leu Thr Lys Met Leu Leu Thr Glu Ile Leu
305          310          315          320
Leu Asp Val Thr Asp Glu Glu Ile Tyr Tyr Val Ala Lys Asp Ala His
          325          330          335
Arg Lys Ala Thr Lys Ala Pro Ala Lys Gln Leu Ala Gln Ser Ser Ala
          340          345          350
Leu Ala Ser Leu Thr Gly Leu Gly Gly Leu Gly Gly Tyr Gly Ser Gly
          355          360          365
Asp Ser Glu Asp Glu Arg Ser Asp Arg Gly Ser Glu Ser Ser Asp Thr

```

370	375	380
Asp Asp Glu Glu Leu Arg His Arg Ile Arg Gln Lys Gln Glu Ala Phe		
385	390	395
Trp Arg Lys Glu Lys Glu Gln Gln Leu Leu His Asp Lys Gln Met Glu		400
	405	410
Glu Glu Lys Gln Gln Thr Glu Arg Val Thr Lys Glu Met Asn Glu Phe		415
	420	425
Ile His Lys Glu Gln Asn Ser Leu Ser Leu Leu Glu Ala Arg Glu Ala		430
	435	440
Asp Gly Asp Val Val Asn Glu Lys Lys Arg Thr Pro Asn Glu Thr Thr		445
	450	455
Ser Val Leu Glu Pro Lys Lys Glu His Lys Glu Lys Glu Lys Gln Gly		460
465	470	475
Arg Ser Arg Ser Gly Ser Ser Ser Ser Gly Ser Ser Ser Ser Asn Ser		480
	485	490
Arg Thr Ser Ser Thr Ser Ser Thr Val Ser Ser Ser Ser Tyr Ser Ser		495
	500	505
Ser Ser Gly Ser Ser Arg Thr Ser Ser Arg Ser Ser Ser Pro Lys Arg		510
	515	520
Lys Lys Arg His Ser Arg Ser Arg Ser Pro Thr Ile Lys Ala Arg Arg		525
	530	535
Ser Arg Ser Arg Ser Tyr Ser Arg Arg Ile Lys Ile Glu Ser Asn Arg		540
545	550	555
Ala Arg Val Lys Ile Arg Asp Arg Arg Arg Ser Asn Arg Asn Ser Ile		560
	565	570
Glu Arg Glu Arg Arg Arg Asn Arg Ser Pro Ser Arg Glu Arg Arg Arg		575
	580	585
Ser Arg Ser Arg Ser Arg Asp Arg Arg Thr Asn Arg Ala Ser Arg Ser		590
	595	600
Arg Ser Arg Asp Arg Arg Lys Ile Asp Asp Gln Arg Gly Asn Leu Ser		605
	610	615
Gly Asn Ser His Lys His Lys Gly Glu Ala Lys Glu Gln Glu Arg Lys		620
625	630	635
Lys Glu Arg Ser Arg Ser Ile Asp Lys Asp Arg Lys Lys Lys Asp Lys		640
	645	650
Glu Arg Glu Arg Glu Gln Asp Lys Arg Lys Glu Lys Gln Lys Arg Glu		655
	660	665
Glu Lys Asp Phe Lys Phe Ser Ser Gln Asp Asp Arg Leu Lys Arg Lys		670
	675	680
Arg Glu Ser Glu Arg Thr Phe Ser Arg Ser Gly Ser Ile Ser Val Lys		685
	690	695
Ile Ile Arg His Asp Ser Arg Gln Asp Ser Lys Lys Ser Thr Thr Lys		700
705	710	715
Asp Ser Lys Lys His Ser Gly Ser Asp Ser Ser Gly Arg Ser Ser Ser		720
	725	730
Glu Ser Pro Gly Ser Ser Lys Glu Lys Lys Ala Lys Lys Pro Lys His		735
	740	745
Ser Arg Ser Arg Ser Val Glu Lys Ser Gln Arg Ser Gly Lys Lys Ala		750
	755	760
Ser Arg Lys His Lys Ser Lys Ser Arg Ser Arg		765
770	775	

&lt;210&gt; 4405

&lt;211&gt; 918

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4405

```

ngcttcctta cagcaccccc acctgccaga gctgacccct cctaggccct gcctaacctt
60
gagttggccc ccaatccctc tggctgcaga agtcccttta cccccaatga gaggaggggc
120
aggaccagat cttttgagag ctgaggggtg agggcattga gccaacacac agatttgctg
180
cctctgtccc cgaagacacc tgcacccctc atgctggagcc aagatgggga atggaactga
240
ggaagattat aactttgtct tcaagggtag tatcgtgggtg cagtgggggc cctcctgggtg
300
tttgacctaa ccaagcacca gacctatgct gtggtaggagc gatggctgaa ggagctctat
360
gaccatgctg aagccacgat cgtcgtcatg ctcgtgggta acaaaagtga cctcagccag
420
gcccgggaag tgccactga ggaggccga atgttcgctg aaaacaatgg actgctcttc
480
ctggagacct cagccctgga ctctaccaat gttgagctag cctttgagac tgcctgaaa
540
gaaatctttg cgaaggtgtc caagcagaga cagaacagca tccggaccaa tgccatcact
600
ctgggcagtg cccaggctgg acaggagcct ggccctgggg agaagagggc ctgttgcatc
660
agcctctgac cttggccagc accacctgcc cccactggct ttttgggtgcc ccttgtcccc
720
acttcagccc caggaccttt ccttgccctt tggttccaga tatcagactg ttccctgttc
780
acagcacctt caggggtctta aggtcttcat gccctatcac aaatacctct tttatctgtc
840
caccctcac agactaggac cctcaaataa agctgtttta tatcaaaaaa aaaaaaaaaa
900
aaaaaaaaaa aaaaaaaaaa
918

```

&lt;210&gt; 4406

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4406

```

Leu Cys Leu Gln Gly Tyr Tyr Arg Gly Ala Val Gly Ala Leu Leu Val
1           5           10           15
Phe Asp Leu Thr Lys His Gln Thr Tyr Ala Val Val Glu Arg Trp Leu
20           25           30
Lys Glu Leu Tyr Asp His Ala Glu Ala Thr Ile Val Val Met Leu Val
35           40           45
Gly Asn Lys Ser Asp Leu Ser Gln Ala Arg Glu Val Pro Thr Glu Glu
50           55           60
Ala Arg Met Phe Ala Glu Asn Asn Gly Leu Leu Phe Leu Glu Thr Ser
65           70           75           80
Ala Leu Asp Ser Thr Asn Val Glu Leu Ala Phe Glu Thr Val Leu Lys

```



				85					90					95					
Glu	Ile	Phe	Ala	Lys	Val	Ser	Lys	Gln	Arg	Gln	Asn	Ser	Ile	Arg	Thr				
			100					105					110						
Asn	Ala	Ile	Thr	Leu	Gly	Ser	Ala	Gln	Ala	Gly	Gln	Glu	Pro	Gly	Pro				
		115					120					125							
Gly	Glu	Lys	Arg	Ala	Cys	Cys	Ile	Ser	Leu										
	130						135												

<210> 4407  
 <211> 974  
 <212> DNA  
 <213> Homo sapiens

<400> 4407  
 ctgtggctaa tgaatgtttt accaaaactc taaactcttt taaacttccc agtttctcaa  
 60  
 agtcagtgtg taaattattt tattctagtt tgcacggaga caattttaaa agactgtttt  
 120  
 ttctctgtag tccttgagca gccatttgac caaataaatt taattttata atcaataaaa  
 180  
 gtcaaaagaa taccttttga agatagggga tcacccattt atacctctaa atgttaacct  
 240  
 caatgcacat tttggaggat atttgcaaga tttattattc atttgatggt ttcttaaagg  
 300  
 atgtttgatg taggtggaca gagatctgag agaaagaagt ggattcactg ctttgaagga  
 360  
 gttacatgca ttatattttg tgctgcactt agtgcctatg acatgggtcct cgtggaagac  
 420  
 gaagaagtga atagaatgca tgaaagcctt cacctgttca acagtatctg taatcacaag  
 480  
 tatttttcaa caacctccat tgcctgttct ctcaacaaaa aagatatctt tcaagaaaag  
 540  
 gtaaccaagg tgcattcttag tatctgcttt ccagaataca ctggggccaaa tacatttgaa  
 600  
 gatgcaggaa actacatcaa gaaccagttt ctagacctga atttaaaaaa agaagataag  
 660  
 gaaatttatt cccacatgac ctgtgctact gacacccaaa atgtcaagtt tgtgtttgac  
 720  
 gcagttacag atataataat caaagagaat ctaaaagact gtgggctttt ctaatcaact  
 780  
 attttctctt ccaactcttg ccatgtatgc ttttcaaaat ataaaagaaa aggtgctgta  
 840  
 tgacgtgttt agtttgaata gacattaact tatctagaca tataactagc attgtaaagc  
 900  
 aaaaagtttt cccacaaaaa tatttatgtg ttatcatcta tatctggata agtttaaatt  
 960  
 tctttggaac atgg  
 974

<210> 4408  
 <211> 158  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 4408

Arg Met Phe Asp Val Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile  
 1 5 10 15  
 His Cys Phe Glu Gly Val Thr Cys Ile Ile Phe Cys Ala Ala Leu Ser  
 20 25 30  
 Ala Tyr Asp Met Val Leu Val Glu Asp Glu Glu Val Asn Arg Met His  
 35 40 45  
 Glu Ser Leu His Leu Phe Asn Ser Ile Cys Asn His Lys Tyr Phe Ser  
 50 55 60  
 Thr Thr Ser Ile Val Leu Phe Leu Asn Lys Lys Asp Ile Phe Gln Glu  
 65 70 75 80  
 Lys Val Thr Lys Val His Leu Ser Ile Cys Phe Pro Glu Tyr Thr Gly  
 85 90 95  
 Pro Asn Thr Phe Glu Asp Ala Gly Asn Tyr Ile Lys Asn Gln Phe Leu  
 100 105 110  
 Asp Leu Asn Leu Lys Lys Glu Asp Lys Glu Ile Tyr Ser His Met Thr  
 115 120 125  
 Cys Ala Thr Asp Thr Gln Asn Val Lys Phe Val Phe Asp Ala Val Thr  
 130 135 140  
 Asp Ile Ile Ile Lys Glu Asn Leu Lys Asp Cys Gly Leu Phe  
 145 150 155

&lt;210&gt; 4409

&lt;211&gt; 4217

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4409

gagagctctg aggaggagga gggggaggag ggggaggctg ggggcaagca ggggccacgg  
 60  
 ggaagccgaa gcagccgggc agacccccct cccacagtc acatggccac acggtcccgg  
 120  
 gagaacgccc ggcgcggggg tacccttgaa cctgaagaag ctgggcggcg ggggtgggaag  
 180  
 aggccaaagc caccctctgg agtggcctct gcatcggccc gagggccgcc agccactgat  
 240  
 gggctggggg ccaagggtgaa gctggaggag aagcagcacc atccatgcca gaagtgccca  
 300  
 cgagttttca acaaccgctg gtacctggag aaacacatga atgtgacca cagccgcatg  
 360  
 cagatctgcg accagtgcgg caagcgcttc ctgctggaga gcgagctgct gctgcacagg  
 420  
 cagacagact gcgagcgcaa catccagtgt gtgacatgtg gcaaagcttt caagaagctt  
 480  
 tggtcctctc atgagcataa caagattgtg cacggctacg cagagaagaa gttctcatgc  
 540  
 gagatctgtg agaagaagtt ctacaccatg gccacgtgc gtaagcacat ggttgccac  
 600  
 accaaggaca tgcccttcac ctgcgagacc tgcggaaagt ccttcaaacy cagtatgtca  
 660  
 ctcaagggtgc actccttgca gcattctgga gagaagccct ttagatgcga gaactgtgac  
 720  
 gaaagggttc agtacaagta ccagctacgc tcccacatga gcattcatat tgggcacaaa  
 780

cagttcatgt gccagtgggtg tggcaaggat ttcaacatga agcagtactt cgacgaacac  
840  
atgaaaacac aactggaga gaaacccttt atctgtgaaa tctgtggcaa aagcttcacc  
900  
agccgcccc acatgaagag acaccgcaga actcacacag gcgagaagcc ctatccatgt  
960  
gatgtgtgtg gccagcgggt cgccttctcg aacatgctca aggccacaa ggagaagtgc  
1020  
ttccgcgtca gccacaccct ggccggcgac ggcgtccccg ctgccccagg cctgccccca  
1080  
accagcccc aggcgcacgc actgcccctg ctcccggggc tgccccagac cctgcccgcc  
1140  
ccgccccacc tgccgcccc gcctccgctc tccccacca ctgccagccc cggcgggagg  
1200  
atgaacgcca acaactagct gccgagctgc acccgtgcac ccgctggggc ctggagtcag  
1260  
ggccactcc aggagggacc cactgccttc ccggggagca cagtagtgcg ggctggggc  
1320  
ctgctccacc tccagaagtg gctggatgta ccctgcctga ggccccgacg aggaggggta  
1380  
tgcaggctgg caggccccag agctgggtgga gggcatctca ctccaagtg ccccccttt  
1440  
ctgtgactcc ttgaagcctt tacttttttt ttttttttgg aagtgaagga aaaagaaact  
1500  
atttacagca ctcccctcca ggtgaggggg gtgctggggg tctgcagcag aaagaaagg  
1560  
gcctgggcag caggtgtggc cagtcctct gccaaaggcct gtgccagagg ggttggccag  
1620  
ttggagcctg ggtcagcctc agcagcctat ccccatgtcc tctatgcccc taatttgctt  
1680  
cctcatcttg gagggtttgg ggagaagttg gcgtgccacc cccacaaccc ctgaggagggt  
1740  
gtagaccag tctgagagcc gcaagcactg aggcagggcc tgagactgga cctgggtgag  
1800  
cgtgggggggt ggagggtggc gaggtgcgga gactgcagac cagtgttca ctgtgtggag  
1860  
tggggcaggc aggggctgga cccagggac ttgccttccc caccactct gctgccagca  
1920  
ggcccaggga tccctgacct gcaccagggt gcaccaaggg tccctgagtc tggagatgtc  
1980  
cccagaagct gctgtgcctc acagcgtgt gagccagacc ctccctgggc agacaggctg  
2040  
actggcagca ccagcttttg gggcagagtc ctaggatgag gcttgggcag tgctggtagg  
2100  
gtttcaaggt gctattagt gggcaggggc agggcggtg ctcacagagc acccagttc  
2160  
ctcaccagct actctggcca tatatccac accagaagga acaagtgtgg ctgtgtccat  
2220  
ctctgtccc ccaaaggccc gctctaggcc ttatcctccc tctaggtcct gccacaacct  
2280  
gtccctggct ggctccagcg tctcgtccc tccctgggct gtgcaccggt ggggtggggc  
2340  
cccatagcac tgccggtaaa ggagcctgca tgttcaggcc cctcggggga ttggggggac  
2400

tggggaggcg cagcctagac ccaattgctt gcccccatga ggctagcact aataggaaac  
2460  
ccttttttgt tgtcatttaa tgtctttatt cctgccttta atatggggag gaaggttcca  
2520  
taagctacat gtttcctagt taagctcttt cctatttgtt ttatacagtt ttgtttgtta  
2580  
tactctttgc accttaaacc cccaccactc cccgacacta ttgccttccc agcatggctg  
2640  
gagtgggaag aggcttgggc cccgggggaa tggttagggg gactgaaccc ctctgacctt  
2700  
atgaggccca tggcactggg gcaggggagct ggggacattt taatcatcaa taaacgaagc  
2760  
actttattct gtacagattt gggcaggccc aagggtgccc agtgatctga ggatttataa  
2820  
tccaagccac accaccctgg ttgttctctg ggcttggagg gtacagtgcc agcagcttcc  
2880  
ttgcccaatt gatgttgagg ctgtagacgt acgctcaggc gctcctgctg tcttggggga  
2940  
gagaagggtc gcccctcccc gaggaagaag gcttctggtc aggaccccca cccaaggct  
3000  
ggggactcca ggctcctgct ttactgtagc tctttttctt ccttgcactc cttgatcttt  
3060  
gggcttccgt gatgtcctca ggggtccccc ctccctgttg ctatttttaa tctctagtcc  
3120  
cagtgcctgg cagctctttg gagctggctc acattttccc aaaaaaagtt gatctctccc  
3180  
agtgggctgt aggcagggtc ctccatgggt ttccaacccc catcactggc accaggatct  
3240  
cccacaggca ctggtggtgt catcacctgc tggccccact acagcctgag taggcctgag  
3300  
tggccgtggc caggctgaga cctgtcaggc catactgaca agcagaggtc agagacactg  
3360  
gtggggagct ggcaatgaaa ccctgtcctg ggacatgggt ttcattgtct tgtacacttc  
3420  
ccctctggga tcagggtgagg ggtccagaca gctgaccaga cagcttgaca gctgggtcaag  
3480  
acggtcacgg gagctctagg tgggcacaac caaccctct cctgggaggc ccctgcccc  
3540  
ctggggatag gagcctgtgt ccctgggtgt aagcactctc ttcacttggg ccattgttgg  
3600  
tgggggtccc tttccggcca gaccacaagg ccagaagcaa taatggcacc tcagcagttc  
3660  
cagtatggat aggggttcct gttttactag cttttacatc tttttattta aaacaaaaca  
3720  
acacaaaaaa acaatgtgcc ccagatgtc agaatgaggc gactagggca ccatactcac  
3780  
tttccagggc tgggggaagg gggacgcagg atcatccct cccaaggaga tctgtggggg  
3840  
tcccaccgtc catctggact tctcagcctg tttggctaga actcaggcct ggagtctggg  
3900  
tctgccccct ccccggtccc ttggggctct ctgggtctcag gccagctggc gatgggtggc  
3960  
tagagtgatg aactcaagcc ctgtggccac agttctggga gccttcaacc ctggctcatg  
4020

ctgccatagt ctccacggtg cccttcacag agggcttggt agtggcagaa tggccatgcc  
 4080  
 caggtgtgtg ttgagaccat tgacaactgc tcgtgtacag gcacccca gccccagagc  
 4140  
 atggggcaca gcaggcatgc gagtgagagg atgaagggga ataaagtcag tacaactcgt  
 4200  
 aaaaaaaaaa aaaaaaa  
 4217

<210> 4410

<211> 405

<212> PRT

<213> Homo sapiens

<400> 4410

Glu	Ser	Ser	Glu	Glu	Glu	Glu	Gly	Glu	Glu	Gly	Glu	Ala	Gly	Gly	Lys
1				5				10						15	
Gln	Gly	Pro	Arg	Gly	Ser	Arg	Ser	Ser	Arg	Ala	Asp	Pro	Pro	Pro	His
			20					25					30		
Ser	His	Met	Ala	Thr	Arg	Ser	Arg	Glu	Asn	Ala	Arg	Arg	Arg	Gly	Thr
		35					40					45			
Pro	Glu	Pro	Glu	Glu	Ala	Gly	Arg	Arg	Gly	Gly	Lys	Arg	Pro	Lys	Pro
	50					55					60				
Pro	Pro	Gly	Val	Ala	Ser	Ala	Ser	Ala	Arg	Gly	Pro	Pro	Ala	Thr	Asp
65					70					75					80
Gly	Leu	Gly	Ala	Lys	Val	Lys	Leu	Glu	Glu	Lys	Gln	His	His	Pro	Cys
				85					90					95	
Gln	Lys	Cys	Pro	Arg	Val	Phe	Asn	Asn	Arg	Trp	Tyr	Leu	Glu	Lys	His
			100					105					110		
Met	Asn	Val	Thr	His	Ser	Arg	Met	Gln	Ile	Cys	Asp	Gln	Cys	Gly	Lys
		115					120					125			
Arg	Phe	Leu	Leu	Glu	Ser	Glu	Leu	Leu	Leu	His	Arg	Gln	Thr	Asp	Cys
	130					135					140				
Glu	Arg	Asn	Ile	Gln	Cys	Val	Thr	Cys	Gly	Lys	Ala	Phe	Lys	Lys	Leu
145					150					155					160
Trp	Ser	Leu	His	Glu	His	Asn	Lys	Ile	Val	His	Gly	Tyr	Ala	Glu	Lys
			165						170					175	
Lys	Phe	Ser	Cys	Glu	Ile	Cys	Glu	Lys	Lys	Phe	Tyr	Thr	Met	Ala	His
			180					185					190		
Val	Arg	Lys	His	Met	Val	Ala	His	Thr	Lys	Asp	Met	Pro	Phe	Thr	Cys
		195					200					205			
Glu	Thr	Cys	Gly	Lys	Ser	Phe	Lys	Arg	Ser	Met	Ser	Leu	Lys	Val	His
	210					215					220				
Ser	Leu	Gln	His	Ser	Gly	Glu	Lys	Pro	Phe	Arg	Cys	Glu	Asn	Cys	Asp
225					230					235					240
Glu	Arg	Phe	Gln	Tyr	Lys	Tyr	Gln	Leu	Arg	Ser	His	Met	Ser	Ile	His
			245						250					255	
Ile	Gly	His	Lys	Gln	Phe	Met	Cys	Gln	Trp	Cys	Gly	Lys	Asp	Phe	Asn
			260					265					270		
Met	Lys	Gln	Tyr	Phe	Asp	Glu	His	Met	Lys	Thr	His	Thr	Gly	Glu	Lys
		275						280					285		
Pro	Phe	Ile	Cys	Glu	Ile	Cys	Gly	Lys	Ser	Phe	Thr	Ser	Arg	Pro	Asn
	290					295						300			
Met	Lys	Arg	His	Arg	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Pro	Cys

```

305          310          315          320
Asp Val Cys Gly Gln Arg Phe Arg Phe Ser Asn Met Leu Lys Ala His
          325          330          335
Lys Glu Lys Cys Phe Arg Val Ser His Thr Leu Ala Gly Asp Gly Val
          340          345          350
Pro Ala Ala Pro Gly Leu Pro Pro Thr Gln Pro Gln Ala His Ala Leu
          355          360          365
Pro Leu Leu Pro Gly Leu Pro Gln Thr Leu Pro Pro Pro Pro His Leu
          370          375          380
Pro Pro Pro Pro Pro Leu Phe Pro Thr Thr Ala Ser Pro Gly Gly Arg
385          390          395          400
Met Asn Ala Asn Asn
          405

```

```

<210> 4411
<211> 484
<212> DNA
<213> Homo sapiens

```

```

<400> 4411
cccaaggcag cagcaggctt gccagggtggg aaggaccaga aggcagccca gcggtgggga
60
gtgtggagtg aatggggctg aaagggtagg gctggccac agagggtggg gaggtgcag
120
caaaagagga gtttagggtg gctatggtgc aggggcagct gtatgcttca cctcaaagt
180
tactgtcttc tctctccatc aaggaggaag ggcccaggct ggggttagga gggctaggg
240
cccaggctgt gtgtcccctt tttctctcct ggtgccctgc ccccccacgc tgcatctcc
300
ctcagtggca gtgggggttc atcactgggt cttcagggtcc cttgcccattg gctgggtgg
360
ttccagggtg gcccaaccag gcggccctg cctctaggca gcgcgtagg ttccttgggc
420
agcctcaatc ctgccagcgc cagcatgtct cctgcacag aagccatcaa gcaccttgg
480
atcc
484

```

```

<210> 4412
<211> 113
<212> PRT
<213> Homo sapiens

```

```

<400> 4412
Met Val Gln Gly Gln Leu Tyr Ala Ser Pro Gln Met Leu Leu Ser Ser
1          5          10          15
Leu Ser Ile Lys Glu Glu Gly Pro Arg Leu Gly Leu Gly Gly Leu Gly
20          25          30
Ala Gln Ala Val Cys Pro Leu Phe Ser Ser Trp Cys Pro Ala Pro Pro
35          40          45
Arg Cys His Leu Pro Gln Trp Gln Trp Gly Phe Ile Thr Gly Ser Ser
50          55          60
Gly Pro Leu Pro Met Ala Gly Gly Val Pro Gly Gly Pro Asn Gln Ala

```

65					70					75				80
Ala	Pro	Ala	Ser	Arg	Gln	Arg	Val	Gly	Phe	Leu	Gly	Gln	Pro	Gln
				85					90				95	
Cys	Gln	Arg	Gln	His	Val	Ser	Leu	His	Arg	Ser	His	Gln	Ala	Pro
			100					105					110	
Asp														

&lt;210&gt; 4413

&lt;211&gt; 1097

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4413

```

atggcgctgc tttttgcacg ttctttgcgc ttgtgccgct ggggagccaa acgattggga
60
gttgccctcca cagagcgcca gagaggcgtc agtttcaaac tggaagaaaa aaccgcccac
120
agcagcctgg cactcttcag agatgatacg ggtgtcaaat atggcttggg gggattggag
180
cccaccaagg tgccttgaat gtggagcgct tccgggagtt ggcagggtgct ggcagacaca
240
gcggtcacca gtggcagaca ctactgggaa gtgacagtga agcgctccca gcagttccgg
300
ataggagtgg cagatgtgga catgtcccgg gatagctgca ttggtgttga tgatcgttcc
360
tggtgttca cctatgccca gcgcaagtgg tacaccatgt tggccaacga gaaagcccca
420
gttgagggtta ttgggcagcc agagaagggtg gggctgttgc tggagtatga ggcccagaag
480
ctgagcctgg tggatgtgag ccaggctctct gtggttcaca cgctacagac agatttcggg
540
gggtccagtgg tgcctgcctt tgctctctgg gatggggagc tgctgacca ttcagggctt
600
gaggtgcccc agggcctcta gtatgtccat tactggagtc cctaatcacg cctttggcca
660
gcctcctttt gaaagtgtcc gaagcctttt tactttgcct caagcaacct ctagtccca
720
caattcagtg ttgggtcctc tgtgcaatat catgatcatc ttctcatcc cctaccttgt
780
gaaagctagg catacagcca aaccctcctt tccccaccc accaactact gccaatctcc
840
taggtacca tgggtgtatc ttcttgacc tgttccttc agtccctctg cctcccttg
900
cccaggcctt tctcagactg tattccatcc tggggcttta tcattcagct ttgtttgaat
960
ttattaatca ccatgatacc tctccctccc tttgtccaca tgtaacttgt tcttggggct
1020
ctaccagatg gctgaagagt aaatcctttc tacctctggc tgaaaaaaaa aaaaaaaaaa
1080
aaaaaaaaaa aaaaaaa
1097

```

&lt;210&gt; 4414

<211> 65  
 <212> PRT  
 <213> Homo sapiens

<400> 4414  
 Met Ala Leu Leu Phe Ala Arg Ser Leu Arg Leu Cys Arg Trp Gly Ala  
 1 5 10 15  
 Lys Arg Leu Gly Val Ala Ser Thr Glu Arg Gln Arg Gly Val Ser Phe  
 20 25 30  
 Lys Leu Glu Gly Lys Thr Ala His Ser Ser Leu Ala Leu Phe Arg Asp  
 35 40 45  
 Asp Thr Gly Val Lys Tyr Gly Leu Val Gly Leu Glu Pro Thr Lys Val  
 50 55 60  
 Pro  
 65

<210> 4415  
 <211> 775  
 <212> DNA  
 <213> Homo sapiens

<400> 4415  
 taaaaggaaa acagtgtctt tattgtgtgt agttctaaca aacgttcact gtgtgcgcat  
 60  
 tccagcagaa agagacaaaag atctttgttc aaaatattct gaaaaaggta aactaactgc  
 120  
 attattgaat acacaaaagg aatgtttaccg ttacttgttc atagtcaaag gtgaagttaa  
 180  
 aaaaaaaggg aagttaaata actgaagtaa tggtttgccc aaatagcaaa cgtaggatac  
 240  
 aggcgtgggc aaagagcagc tactgaagct catgaggagg atgctggata tagggtaggt  
 300  
 aacttgacaa atgcctctgc ttctttggaa ccttcttctt agatcacccc cacaaattcc  
 360  
 aaacctggct ctttcagagc acaacagcca aatgtaacta aactcctcat tacttctgtg  
 420  
 atatttgga acagaatgag atagttaaa aaaaaatcaa tttcttggtg agacaagaca  
 480  
 tgtctgaatc catttctctt ggggtaggag gaggtaatga acattaacgt tctgcatctc  
 540  
 aatctcctaa aatggaattt aaccagatag atatcgcttg agatttttaa gcaggagata  
 600  
 ccataagtaa tgatactcca ggctgtaaa gcatttttca ttgtcccaca ttgcagctaa  
 660  
 atgagtataa actcgacagt gttctgattt cacaacatat gcatttatga caactgctaa  
 720  
 aacaacttta caggctcaaa cgatagggtc caagggattt ttgtttttgc ttaag  
 775

<210> 4416  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens



&lt;400&gt; 4416

```

Met Lys Asn Ala Leu Gln Ala Trp Ser Ile Ile Thr Tyr Gly Ile Ser
 1           5           10           15
Cys Phe Lys Ile Ser Ser Asp Ile Tyr Leu Val Lys Phe His Phe Arg
 20           25           30
Arg Leu Arg Cys Arg Thr Leu Met Phe Ile Thr Ser Ser Tyr Pro Lys
 35           40           45
Arg Asn Gly Phe Arg His Val Leu Ser Gln Gln Glu Ile Asp Phe Phe
 50           55           60
Leu Asn Tyr Leu Ile Leu Leu Pro Asn Ile Thr Glu Val Met Arg Ser
 65           70           75           80
Leu Val Thr Phe Gly Cys Cys Ala Leu Lys Glu Pro Gly Leu Glu Phe
 85           90           95
Val Gly Val Ile
          100

```

&lt;210&gt; 4417

&lt;211&gt; 980

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4417

```

nnacgcgtga gggaaaagca gaggcagttg gaggtagcgc aagttgaaaa ccagctgcta
60
aaaatgaagg tggaatcgtc ccaagaagcc aatgctgagg tgatgcgaga gatgaccaag
120
aagctgtaca gccagtatga ggagaagctg caggaagaac agaggaagca cagtgtgag
180
aaggaggctc ttttggaaga aaccaatagt tttctgaaag cgattgaaga agccaataaa
240
aagatgcaag cagcagagat cagcctagag gagaaagacc agaggatcgg ggagctggac
300
aggctgattg agcgcattga aaaggaacgt catcaactgc aacttcaact cctagaacat
360
gaaacagaaa tgtctgggga gttaactgat tctgacaagg aaaggtatca gcagttggag
420
gaggcatcag ccagcctccg tgagcggatc agacacctag atgacatggt gcattgccag
480
cagaagaaag tcaagcagat gggtgaggag attgagtcac taaagaaaaa agtgcaacag
540
aagcagctcc tgatactgca gcttttagaa aaaatctctt tcctggaagg agagaataat
600
gaactacaaa gcaggttgga ctatttgaca gaaacccagg ccaagactga agtggaacaa
660
agagaaattg gagtgggctg tgatcttctt cccagcccaa caggcaggac tcgtgaaatt
720
gtgatgcctt ctaggaacta caccatac acaagagtcc tggagttatc ctcaaagaaa
780
acgctgactt aggcactcag aggcatacac tttttacaga tggacaaaag ctctggaacc
840
ctgtggcttc aaatcctttg ggaaggggtga ctggtgtttc ccctacacac agtgtaagcc
900
ggaatgggaa tcgctgaggc tctgatccac ttctaagaca ggaaggaaag tgaaggcaga
960

```

gtgagcaggt aagagagga  
980

<210> 4418  
<211> 263  
<212> PRT  
<213> Homo sapiens

<400> 4418  
Xaa Arg Val Arg Glu Lys Gln Arg Gln Leu Glu Val Ala Gln Val Glu  
1 5 10 15  
Asn Gln Leu Leu Lys Met Lys Val Glu Ser Ser Gln Glu Ala Asn Ala  
20 25 30  
Glu Val Met Arg Glu Met Thr Lys Lys Leu Tyr Ser Gln Tyr Glu Glu  
35 40 45  
Lys Leu Gln Glu Glu Gln Arg Lys His Ser Ala Glu Lys Glu Ala Leu  
50 55 60  
Leu Glu Glu Thr Asn Ser Phe Leu Lys Ala Ile Glu Glu Ala Asn Lys  
65 70 75 80  
Lys Met Gln Ala Ala Glu Ile Ser Leu Glu Glu Lys Asp Gln Arg Ile  
85 90 95  
Gly Glu Leu Asp Arg Leu Ile Glu Arg Met Glu Lys Glu Arg His Gln  
100 105 110  
Leu Gln Leu Gln Leu Leu Glu His Glu Thr Glu Met Ser Gly Glu Leu  
115 120 125  
Thr Asp Ser Asp Lys Glu Arg Tyr Gln Gln Leu Glu Glu Ala Ser Ala  
130 135 140  
Ser Leu Arg Glu Arg Ile Arg His Leu Asp Asp Met Val His Cys Gln  
145 150 155 160  
Gln Lys Lys Val Lys Gln Met Val Glu Glu Ile Glu Ser Leu Lys Lys  
165 170 175  
Lys Val Gln Gln Lys Gln Leu Leu Ile Leu Gln Leu Leu Glu Lys Ile  
180 185 190  
Ser Phe Leu Glu Gly Glu Asn Asn Glu Leu Gln Ser Arg Leu Asp Tyr  
195 200 205  
Leu Thr Glu Thr Gln Ala Lys Thr Glu Val Glu Thr Arg Glu Ile Gly  
210 215 220  
Val Gly Cys Asp Leu Leu Pro Ser Pro Thr Gly Arg Thr Arg Glu Ile  
225 230 235 240  
Val Met Pro Ser Arg Asn Tyr Thr Pro Tyr Thr Arg Val Leu Glu Leu  
245 250 255  
Ser Ser Lys Lys Thr Leu Thr  
260

<210> 4419  
<211> 369  
<212> DNA  
<213> Homo sapiens

<400> 4419  
ngaattcctt gtatcgaaag tgccagaata catactatatt attatgtatt tattctaaga  
60  
cagggtcttg ctctgntcac ccaggctgga gtgcagtggt gcgatcttgg ctcaactgcaa  
120

cctccgcctc cccagctcaa gcaactctcc tgccccagcc acccaagtnn aaattacagg  
 180  
 cccgtgccac cacaccggc caatttctgt atttttagta gagacggggg ttcaccatat  
 240  
 tggccaggac ggtctcaaac tcctggcccc atgtgatcct cccaccttgg cctcccaagg  
 300  
 tgctggtatt acaggcgtga gccaccactg cgcttgcca gattttgctc ttttttgagc  
 360  
 agtctcagn  
 369

<210> 4420  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 4420  
 Xaa Ile Pro Cys Ile Glu Ser Ala Arg Ile His Thr Ile Tyr Tyr Val  
 1 5 10 15  
 Phe Ile Leu Arg Gln Gly Leu Ala Leu Xaa Thr Gln Ala Gly Val Gln  
 20 25 30  
 Trp Cys Asp Leu Gly Ser Leu Gln Pro Pro Pro Pro Gln Leu Lys Gln  
 35 40 45  
 Leu Ser Cys Pro Ser His Pro Ser Xaa Asn Tyr Arg Pro Val Pro Pro  
 50 55 60  
 His Pro Ala Asn Phe Cys Ile Phe Ser Arg Asp Gly Val Ser Pro Tyr  
 65 70 75 80  
 Trp Pro Gly Arg Ser Gln Thr Pro Gly Pro Met  
 85 90

<210> 4421  
 <211> 1356  
 <212> DNA  
 <213> Homo sapiens

<400> 4421  
 nctggcagag tgtgagggaa gaggcgctaa tccctttccc atctggcctg gcctctcggg  
 60  
 tgtggacacc aaatcccgca ggggttgctg tagctatgcc cgtgggcac cttgccctgg  
 120  
 ctgggggtgtg ctagagagag gaaagctgga ggaggagagc tgagctggtg gttaccccat  
 180  
 gccaggaggg ccaaggcaag aagcctgcag cccagagat actgaccctg tcccctgccc  
 240  
 tccagggcac aactgaacta acggaatggc ttaatcagat agctcgagaa ctgccactac  
 300  
 cactccctcc ctgcccactc ctcccaaagt ccacctgttc ccgcaagagt cccacctcac  
 360  
 aagcaaccac cagaggctga tacaaatggc cgctgtatatt ttgctaaagt gacagtgaca  
 420  
 cagataaggc aaagagctga ggggcaggac acatcagatg ggaaggggga gaccgtgcaa  
 480  
 aatggcagtc taacagaaaa tcatccttgt accaacagcc ccttccctcc caagttaggt  
 540

gagcccttgg gccagtgtat gggcagaaaa gcagatttgt gtccttcaga agggaaatgt  
 600  
 aaaaagggtga aagctctagt tgaagggcag tgagaggggc tggagtggga gagaagggtct  
 660  
 ctcttgcccg gtggtctggg tgcagcaagg gcactctgag aaggcagaat ggaaacgcag  
 720  
 ggctggaggg gcatgggtac aggtttgggg gctctttcca gcctctacta tgttgccccc  
 780  
 ttcccaaag cccttacagg ggcagaagca cattccccgt gaccctgagt ctggcctcat  
 840  
 ttgggaagtc ttctggggtg tatggatgcc tgtgtgtgtg agtgagatgg gtggggggcc  
 900  
 acggctatct ggctctagca cactcatggg agaccagctc tgggaacaac aggatggggg  
 960  
 gctgggatgg gggtttaaga ggtctctgct agatatttct gaactgacct cccaggtgc  
 1020  
 ccaacctggc ctgggaaga gagtgcctag ggcagcgggg atggaaacct ttgcctgcag  
 1080  
 catagggtcca ggcctcatgg ccctacacct tgacctcttg actttgttgc cctggcctta  
 1140  
 agtacaaga ttcctcactg cgtgctaaga aaacagatcc cgggccgggc ccggttgctc  
 1200  
 acacctataa tcccagcact ttggaaggct gaggcgggtg aatcacctga gatcaggagt  
 1260  
 tcgagaccag cctggccaac atggcaaaac cctgtctcta ctaaaaacac aaaaatttgc  
 1320  
 cgggcatggg ggcagatgcc tgtaatccca gctact  
 1356

<210> 4422  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 4422  
 Gly Arg Ala Arg Leu Leu Thr Pro Ile Ile Pro Ala Leu Trp Lys Ala  
 1 5 10 15  
 Glu Ala Gly Glu Ser Pro Glu Ile Arg Ser Ser Arg Pro Ala Trp Pro  
 20 25 30  
 Thr Trp Gln Asn Pro Val Ser Thr Lys Asn Thr Lys Ile Cys Arg Ala  
 35 40 45  
 Trp Trp Gln Met Pro Val Ile Pro Ala Thr  
 50 55

<210> 4423  
 <211> 2673  
 <212> DNA  
 <213> Homo sapiens

<400> 4423  
 tccggaagtg gcttctgcga caacatgctt gcggacctcg gcttaatcgg aaccataggc  
 60  
 gaggatgacg aggtgccggg ggagcccag tctgactccg gggacgagga agaggagggg  
 120

cccattgtgc tgggcagacg acaaaaagct ttggggaaga accgcagtgc tgatttcaac  
180  
cctgatttcg ttttactga gaaggagggg acgtacgatg gcagctgggc cctggctgat  
240  
gtcatgagcc aactcaagaa gaagagggca gccactacat tagatgagaa gattgagaaa  
300  
gttcgaaaga aaaggaaaac agaggataaa gaagccaagt ctgggaagtt ggaaaaggag  
360  
aaagaagcaa aggaaggctc tgaaccaagg gagcaggaag accttcaaga gaatgatgag  
420  
gaaggctcag aagatgaagc ctcgagact gactactcat cagctgatga gaacatcctc  
480  
accaaagcag atacactcaa agtaaaggat cggaagaaga agaagaagaa aggacaggaa  
540  
gcaggaggat tttttgaaga tgcattctcag tacgatgaaa acctctcggt ccaggacatg  
600  
aacctttccc gccctcttct gaaggccatt acagccatgg gcttcaagca gcccaccccg  
660  
atccagaagg cgtgcatacc tgtgggtcta ttggggaagg acatctgtgc ctgtgcagcc  
720  
actgggacag gtaaaactgc cgcctttgcc ctgcctgttt tggagcgtct gatttataaa  
780  
ccccgccagg ctccagtcac ccgcgtgctg gtgctagtgc ccacccgaga gctgggcatc  
840  
caggtgcact ctgtcaccag acagctggcc cagttctgca acatcaccac ctgcctggct  
900  
gtgggaggct tggatgtgaa gtctcaggaa gcagctcttc gggcagcgcc tgacatcctc  
960  
atgccacccc caggccggct catcgatcac ctccacaact gcccttcctt ccacctgagc  
1020  
agcatcgagg tgctcatcct ggacgaggct gacaggatgc tggatgagta ctttgaggag  
1080  
cagatgaagg agatcatccg aatgtgttcc caccaccgcc agaccatgct cttctcggcc  
1140  
accatgacag acgaggtgaa agatctggct tctgtctcct tgaagaatcc tgtccggata  
1200  
tttgtgaaca gcaacacaga tgtggctccc ttctgcggc aggagtcat ccggatccgg  
1260  
cctaactgtg aaggagaccg ggaagccatc gtggcagctt tgttgacgag gaccttcaact  
1320  
gaccatgtga tgctgttcac gcaaaccaag aagcaggccc accgcatgca catcctcctg  
1380  
gggtcatggt ggctgcaggt ggggtgagctc catggcaact tgtcacagac gcagcggctg  
1440  
gaggccctcc ggcgttttaa ggatgaacag attgacatcc tcgtggccac tgatgtggca  
1500  
gcccgtagac ttgacattga ggggggtcaaa acggtaatca acttcacaat gcctaatacc  
1560  
atcaaacatt atgtccaccg ggtggggcga acagcacgtg ctggcagggc tgggcgctca  
1620  
gtctctctgg tgggagaaga tgagcggaag atgctgaagg agattgtaaa agctgccaag  
1680  
gccctgtga aggccaggat acttcccaa gatgtcatcc tcaaattccg ggacaagatt  
1740

gagaaaatgg agaaagatgt gtatgcagtt ctgcagctag aggcggagga aaaagagatg  
 1800  
 cagcagtcag aagcccagat caatacagca aagcggctcc tggagaaggg gaaggaggca  
 1860  
 gtgggtccaag agcccgagag gagctggttc cagaccaaag aagagaggaa gaaggagaaa  
 1920  
 attgccaaag ctctgcagga atttgacttg gccttaagag gaaagaagaa aaggaagaag  
 1980  
 tttatgaagg atgccccaaa aaagggggag atgacagcag aggaaagggtc tcagtgtgaa  
 2040  
 atcctcaagg cgcagatgtt tgctgaacgg ctagcgaaga ggaatcgcag agccaagcgg  
 2100  
 gcccagagcaa tgcccagagga ggagccagtg agaggctctg ccaagaagca aaagcagggg  
 2160  
 aagaaatctg tatttgatga agaactcacc aacacaagca agaaggccct gaaacagtat  
 2220  
 cgagctggcc cttcctttga agaaaggaaa cagttgggct tgccccacca gagacgagga  
 2280  
 ggaaacttta aatctaaatc caggtgatac tggctgtttt ggagggggcac atgttttggg  
 2340  
 attagagata aaaacctttc atggaaaaga agcttctcca tcttcattct ggtcttaact  
 2400  
 ctgatttttct tacagataca agaggaggaa gtagctgtcg tggcctgaag aaattcatgg  
 2460  
 gggcagccct taaatccctt ccctgtggga agtcacctg gctgggtctgt cttttctcca  
 2520  
 tttgttttaa aaaaaaaca aaacaaaaaa caacactttg gtgtgggtgg atggtacgta  
 2580  
 gctatttttcc taagcatgtc tgtcaatctc ctttcttgct gattagcttt catatgacta  
 2640  
 tattaatgg aagtattttt gggaaaagag aaa  
 2673

&lt;210&gt; 4424

&lt;211&gt; 768

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4424

Ser	Gly	Ser	Gly	Phe	Cys	Asp	Asn	Met	Leu	Ala	Asp	Leu	Gly	Leu	Ile
1				5					10					15	
Gly	Thr	Ile	Gly	Glu	Asp	Asp	Glu	Val	Pro	Val	Glu	Pro	Glu	Ser	Asp
			20					25					30		
Ser	Gly	Asp	Glu	Glu	Glu	Glu	Gly	Pro	Ile	Val	Leu	Gly	Arg	Arg	Gln
		35					40				45				
Lys	Ala	Leu	Gly	Lys	Asn	Arg	Ser	Ala	Asp	Phe	Asn	Pro	Asp	Phe	Val
	50				55				60						
Phe	Thr	Glu	Lys	Glu	Gly	Thr	Tyr	Asp	Gly	Ser	Trp	Ala	Leu	Ala	Asp
65				70				75					80		
Val	Met	Ser	Gln	Leu	Lys	Lys	Lys	Arg	Ala	Ala	Thr	Thr	Leu	Asp	Glu
			85					90					95		
Lys	Ile	Glu	Lys	Val	Arg	Lys	Lys	Arg	Lys	Thr	Glu	Asp	Lys	Glu	Ala
			100					105					110		
Lys	Ser	Gly	Lys	Leu	Glu	Lys	Glu	Lys	Glu	Ala	Lys	Glu	Gly	Ser	Glu

```

      115              120              125
Pro  Arg  Glu  Gln  Glu  Asp  Leu  Gln  Glu  Asn  Asp  Glu  Glu  Gly  Ser  Glu
      130              135              140
Asp  Glu  Ala  Ser  Glu  Thr  Asp  Tyr  Ser  Ser  Ala  Asp  Glu  Asn  Ile  Leu
145              150              155              160
Thr  Lys  Ala  Asp  Thr  Leu  Lys  Val  Lys  Asp  Arg  Lys  Lys  Lys  Lys  Lys
      165              170              175
Lys  Gly  Gln  Glu  Ala  Gly  Gly  Phe  Phe  Glu  Asp  Ala  Ser  Gln  Tyr  Asp
      180              185              190
Glu  Asn  Leu  Ser  Phe  Gln  Asp  Met  Asn  Leu  Ser  Arg  Pro  Leu  Leu  Lys
      195              200              205
Ala  Ile  Thr  Ala  Met  Gly  Phe  Lys  Gln  Pro  Thr  Pro  Ile  Gln  Lys  Ala
      210              215              220
Cys  Ile  Pro  Val  Gly  Leu  Leu  Gly  Lys  Asp  Ile  Cys  Ala  Cys  Ala  Ala
225              230              235              240
Thr  Gly  Thr  Gly  Lys  Thr  Ala  Ala  Phe  Ala  Leu  Pro  Val  Leu  Glu  Arg
      245              250              255
Leu  Ile  Tyr  Lys  Pro  Arg  Gln  Ala  Pro  Val  Thr  Arg  Val  Leu  Val  Leu
      260              265              270
Val  Pro  Thr  Arg  Glu  Leu  Gly  Ile  Gln  Val  His  Ser  Val  Thr  Arg  Gln
      275              280              285
Leu  Ala  Gln  Phe  Cys  Asn  Ile  Thr  Thr  Cys  Leu  Ala  Val  Gly  Gly  Leu
      290              295              300
Asp  Val  Lys  Ser  Gln  Glu  Ala  Ala  Leu  Arg  Ala  Ala  Pro  Asp  Ile  Leu
305              310              315              320
Ile  Ala  Thr  Pro  Gly  Arg  Leu  Ile  Asp  His  Leu  His  Asn  Cys  Pro  Ser
      325              330              335
Phe  His  Leu  Ser  Ser  Ile  Glu  Val  Leu  Ile  Leu  Asp  Glu  Ala  Asp  Arg
      340              345              350
Met  Leu  Asp  Glu  Tyr  Phe  Glu  Glu  Gln  Met  Lys  Glu  Ile  Ile  Arg  Met
      355              360              365
Cys  Ser  His  His  Arg  Gln  Thr  Met  Leu  Phe  Ser  Ala  Thr  Met  Thr  Asp
370              375              380
Glu  Val  Lys  Asp  Leu  Ala  Ser  Val  Ser  Leu  Lys  Asn  Pro  Val  Arg  Ile
385              390              395              400
Phe  Val  Asn  Ser  Asn  Thr  Asp  Val  Ala  Pro  Phe  Leu  Arg  Gln  Glu  Phe
      405              410              415
Ile  Arg  Ile  Arg  Pro  Asn  Arg  Glu  Gly  Asp  Arg  Glu  Ala  Ile  Val  Ala
      420              425              430
Ala  Leu  Leu  Thr  Arg  Thr  Phe  Thr  Asp  His  Val  Met  Leu  Phe  Thr  Gln
      435              440              445
Thr  Lys  Lys  Gln  Ala  His  Arg  Met  His  Ile  Leu  Leu  Gly  Leu  Met  Gly
      450              455              460
Leu  Gln  Val  Gly  Glu  Leu  His  Gly  Asn  Leu  Ser  Gln  Thr  Gln  Arg  Leu
465              470              475              480
Glu  Ala  Leu  Arg  Arg  Phe  Lys  Asp  Glu  Gln  Ile  Asp  Ile  Leu  Val  Ala
      485              490              495
Thr  Asp  Val  Ala  Ala  Arg  Gly  Leu  Asp  Ile  Glu  Gly  Val  Lys  Thr  Val
      500              505              510
Ile  Asn  Phe  Thr  Met  Pro  Asn  Thr  Ile  Lys  His  Tyr  Val  His  Arg  Val
      515              520              525
Gly  Arg  Thr  Ala  Arg  Ala  Gly  Arg  Ala  Gly  Arg  Ser  Val  Ser  Leu  Val
      530              535              540
Gly  Glu  Asp  Glu  Arg  Lys  Met  Leu  Lys  Glu  Ile  Val  Lys  Ala  Ala  Lys

```

```

545          550          555          560
Ala Pro Val Lys Ala Arg Ile Leu Pro Gln Asp Val Ile Leu Lys Phe
          565          570          575
Arg Asp Lys Ile Glu Lys Met Glu Lys Asp Val Tyr Ala Val Leu Gln
          580          585          590
Leu Glu Ala Glu Glu Lys Glu Met Gln Gln Ser Glu Ala Gln Ile Asn
          595          600          605
Thr Ala Lys Arg Leu Leu Glu Lys Gly Lys Glu Ala Val Val Gln Glu
          610          615          620
Pro Glu Arg Ser Trp Phe Gln Thr Lys Glu Glu Arg Lys Lys Glu Lys
625          630          635          640
Ile Ala Lys Ala Leu Gln Glu Phe Asp Leu Ala Leu Arg Gly Lys Lys
          645          650          655
Lys Arg Lys Lys Phe Met Lys Asp Ala Lys Lys Lys Gly Glu Met Thr
          660          665          670
Ala Glu Glu Arg Ser Gln Phe Glu Ile Leu Lys Ala Gln Met Phe Ala
          675          680          685
Glu Arg Leu Ala Lys Arg Asn Arg Arg Ala Lys Arg Ala Arg Ala Met
          690          695          700
Pro Glu Glu Glu Pro Val Arg Gly Pro Ala Lys Lys Gln Lys Gln Gly
705          710          715          720
Lys Lys Ser Val Phe Asp Glu Glu Leu Thr Asn Thr Ser Lys Lys Ala
          725          730          735
Leu Lys Gln Tyr Arg Ala Gly Pro Ser Phe Glu Glu Arg Lys Gln Leu
          740          745          750
Gly Leu Pro His Gln Arg Arg Gly Gly Asn Phe Lys Ser Lys Ser Arg
          755          760          765

```

&lt;210&gt; 4425

&lt;211&gt; 5199

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4425

```

naaatccggt gagcggtaag gaaagtgatg ccaagtcttc gaagcctcag tgacaaacgc
60
atagcaagaa cacatccact ccagagatac cttctcgaaa caaaagattt tcctacctgc
120
ttatacttgg taaccgaggg aattactaag acttcttgct catttctgag tattgtcttt
180
atatcctgac actatgaatg ctacttgat gctctttaag tctgttctct ggggagggcag
240
taagggggccg tggagctggc ctcggcctcg gcatcgggag aggctggact tcctgtctct
300
ctgtgctgaa tggctgcgat ggcgcccgt ctcactgacg cagcagctga agcacaccat
360
atccgggttca aactggctcc cccatcctct accttggtccc ctggcagtg cgaataaac
420
ggcaacgcca acatccttat tgctgccaac ggaacaaaa gaaaagccat tgctgcagag
480
gatcccagcc tagatttccg aaataatcct accaaggaag acttgggaaa gctgcaacca
540
ctggtggcat cttatctctg ctctgatgta acatctgttc cctcaaagga gtctttgaag
600

```



ttgcaagggg tcttcagcaa gcagacagtc cttaaacttc atcctctctt atctcagtc  
660  
tatgaactcc gagctgagct gttggggaga cagccagttt tggagttttc cttagaaaat  
720  
cttagaacca tgaatacgag tggtcagaca gctctgccac aagcacctgt aaatgggttg  
780  
gctaagaaat tgactaaaag ttcaacacat tctgatcatg acaattccac ttccctcaat  
840  
gggggaaaac gggctctcac ttcattctgct cttcatgggg gtgaaatggg aggatctgaa  
900  
tctggggact tgaagggggg tatgaccaat tgcactcttc cacatagaag ccttgatgta  
960  
gaacacacaa ctttgtatag caataatagc actgcaaaca aatcctttgt caattccatg  
1020  
gaacagccgg cacttcaagg aagcagtagg ttatcacctg gtacagactc cagctctaac  
1080  
ttgggggggtg tcaaattgga gggtaaaaag tctccctgt cttccattct tttcagtgtc  
1140  
ttagattctg acacaaggat aacagcttta ctgcgggcagc aggctgacat tgagagccgt  
1200  
gccccgagat tacaaaagcg cttacagggt gtgcaagcca agcagggtga gaggcatata  
1260  
caacatcagc tgggtggatt tttggagaag actttgagca aactgccaaa cttggaatcc  
1320  
ttgagaccac ggagccagtt gatgctgact cgaaaggctg aagctgcctt gagaaaagct  
1380  
gccagtgaga ccaccacttc agagggactt agcaactttc tgaaaagcaa ttcaatttca  
1440  
gaagaattgg agagatttac agctagtggc atagccaact tgagggtgcag tgaacaggca  
1500  
tttgattcag atgtcactga cagtagttca ggaggggagt ctgatattga agaggaagaa  
1560  
ctgaccagag ctgatcccga gcagcgtcat gtaccctga gacgcaggtc agaatggaaa  
1620  
tgggctgcag accgggcagc tattgtcagc cgctggaact ggcttcaggc tcatgtttct  
1680  
gacttggaa atcgaattcg tcagcaaaca gacatttaca aacagatacg tgctaataag  
1740  
gggttgatag ttcttgggga ggtacctccc ccagagcata caacagactt atttcttcca  
1800  
cttagttctg aggtgaagac agatcatggg actgataaat tgattgagtc tgtttctcag  
1860  
ccattggaaa accatggtgc ccctattatt ggtcatattt cagagtcact gtctaccaa  
1920  
tcatgtggag cactcagacc tgtcaatgga gttattaaca ctcttcagcc tgtcttggca  
1980  
gaccacattc caggtgacag ctctgatgct gaggaacaat tacataagaa gcaacgactg  
2040  
aatctcgtct cttcatcatc tgatggcacc tgtgtggcag cccggacacg tctgtactg  
2100  
agctgtaaga agcggaggct tgttcgaccc aacagcatcg ttctctttc caagaagggt  
2160  
caccggaaca gcacaatccg ccctggctgt gatgtgaatc cctcctgcgc actgtgtgg  
2220

tcaggcagca tcaacacccat gcctcccgaa attcactatg aagccccctct gttggaacgt  
2280  
ctttcccagt tggactcttg tgttcatect gttctagcat ttccagatga tgttcccaca  
2340  
agcctgcatt tccagagcat gctgaaatct cagtggcaga acaagccttt tgacaaaatc  
2400  
aaacctccca aaaagttatc gcttaagcac agagcaccca tgccgggcag tctgccagat  
2460  
tcagctcgta aggacaggca caaattgggc agctccttcc taacaacagc caagctgtcc  
2520  
catcacaaa cccggcctga caggaccac aggcagcact tagacgatgt gggggccgtg  
2580  
cccatgggtg agcgagtgc agcgccaaaa gcagagcgct tgctcaaccc accaccaccc  
2640  
gtgcatgacc caaaccacag caaaatgaga ttgcgagacc attcatctga gagaagtga  
2700  
gtgttgaagc atcacacaga catgagcagt tcgagctact tggcagccac ccaccatcct  
2760  
ccacacagtc ccttgggtgc acagctctcc acctcctcag attcccctgc acccgccagc  
2820  
tctagctcac aggttacagc cagcacatcg cagcagccag taaggaggag aaggggagag  
2880  
agctcatttg atattaacaa cattgtcatc ccaatgtctg ttgctgcaac aactcgcgta  
2940  
gagaaactgc aatacaagga aatccttacg cccagctggc gggagggtga tcttcagtct  
3000  
ctgaagggga gtcctgatga ggagaatgaa gagattgagg acctatccga cgcagccttc  
3060  
gccgccctgc atgccaaatg tgaggagatg gagagggcac ggtggctgtg gaccacgagt  
3120  
gtgccacccc agcggcgggg cagcaggtcc tacaggctcat cagacggccg gacaaccccc  
3180  
cagctgggca gtgccaaacc ctccaccccc cagcctgcct cccctgatgt cagcagtagc  
3240  
cactctttgt cagaatactc ccatggtcag tcccctagga gcccattag cccggaactg  
3300  
cactcagcac ccctacccc tgtggctcgg gacactctgc gacacttagc cagtgaggat  
3360  
acccgttggt ccacaccaga gctggggctg gatgaacagt ctgtccagcc ctgggagcgg  
3420  
cggaccttcc ccctggcgca cagtccccag gcggagtgtg aggaccagct ggatgcacag  
3480  
gagcgagcag cccgctgcac tcgacgcacc tcaggcagca agactnggcc gggagacaga  
3540  
ggcagcgccc acctcgctc ccattgtccc cctcaagagt cggcatctgg tggcagcagc  
3600  
cacagctcag cgcccgactc acagatgagc gggagacagc catctaaaca gactcactaa  
3660  
ctattggcat taaagcttca gaaatctctg cgtttgatat tcaaacatca tatgccggaa  
3720  
attttcacag tttttagtga acttaaggaa tttagatcct actttggtat tttttttct  
3780  
tgttttaatt tttgttttgc tttgttttcc atgttttctt gtcacacacc tgagcacttc  
3840

ctcccgttgg caaacagaag ttcaggatga gaccctgctg gcctggtcct ggcacatcct  
3900  
ctgcactggt gaatcactgg acttactgat cttagatgac caccacctcc ctcacacctg  
3960  
tgggcagggc agaacagcct ggcgggctac agtttagcat ggccttcttg agctagggtg  
4020  
gaatggggca ggggtgctctg gactcttacc cctccccctc ccatctgtgg cttggctctg  
4080  
ctgtggccct cctggctggg tccccctggg ttttcgtgct ggaacatccc caccagagcc  
4140  
tctctgccat aactgccagc tgctctcccc gagtgctcag ctggcagaac acctttcctt  
4200  
tctcaccag aacttaagag actgattttt tgtttcatct gcatttggtc ttctctgttt  
4260  
tgactctttc actgcagtaa cctggctgtg gctgctcagg tccccctcct catgccccct  
4320  
gggtacccttc cctgtctgct ctcccatgcc atgtacacac ccacaacctg tccttccact  
4380  
tggaatatatt ttaccaccta tcttgatctt tgaaggtagg gttaggacta cttaacctct  
4440  
attccccactc cctgcaaac tgggggttgt ggggaagtga cagccatctc cctgtgtgat  
4500  
tttttttttt tttttccctc tgattcactt tgccatgttt ccttcacatc cagatccctg  
4560  
tcgggtgttag ttccactctt ggtctttcac gctccccctg cctgtggaac attgtctggg  
4620  
cctagctgtg gtccccattg tcccccttc acccttctct gttaaccttg tgctgtctc  
4680  
ctgtatgatc acatcaccaa aaagggggag gggggagaag actctttttt ttggccatt  
4740  
ttgtaatcgt ataaaaatag tagacaactg cttaatgggt ggggtttttt cacaattttc  
4800  
aacattagtg attttttttt ctgtttgcaa gttaaagggt ttgtcattgt ttctttaaaa  
4860  
aaaaaatata ataatgcacc atatccctat gcataaagtg cttcttctat ttataagggt  
4920  
gaaaattctg aataaccctt ttagcattga aaaaaaaaaa aaaaacaaaa aatggaaaaa  
4980  
aaaaaccttg tattttgtaa atattttctt ttctgtcttt ggagctgtgt aatggcagcg  
5040  
aaacatgtag ctgtctttgt tctatagaaa tgcttttctt cagagaagct gatctttgtt  
5100  
aatgtcttga ttctgttcgc aaagcacaga ctagtgttta aaaaaaaaaa agaaggaaaa  
5160  
attgaaaaaa ataaaaaaaa aagttacaga aaaaaaaaaa  
5199

&lt;210&gt; 4426

&lt;211&gt; 1116

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4426

Met Ala Ala Met Ala Pro Ala Leu Thr Asp Ala Ala Ala Glu Ala His

1	5	10	15
His Ile Arg Phe Lys Leu Ala Pro Pro Ser Ser Thr Leu Ser Pro Gly			
20	25	30	
Ser Ala Glu Asn Asn Gly Asn Ala Asn Ile Leu Ile Ala Ala Asn Gly			
35	40	45	
Thr Lys Arg Lys Ala Ile Ala Ala Glu Asp Pro Ser Leu Asp Phe Arg			
50	55	60	
Asn Asn Pro Thr Lys Glu Asp Leu Gly Lys Leu Gln Pro Leu Val Ala			
65	70	75	80
Ser Tyr Leu Cys Ser Asp Val Thr Ser Val Pro Ser Lys Glu Ser Leu			
85	90	95	
Lys Leu Gln Gly Val Phe Ser Lys Gln Thr Val Leu Lys Ser His Pro			
100	105	110	
Leu Leu Ser Gln Ser Tyr Glu Leu Arg Ala Glu Leu Leu Gly Arg Gln			
115	120	125	
Pro Val Leu Glu Phe Ser Leu Glu Asn Leu Arg Thr Met Asn Thr Ser			
130	135	140	
Gly Gln Thr Ala Leu Pro Gln Ala Pro Val Asn Gly Leu Ala Lys Lys			
145	150	155	160
Leu Thr Lys Ser Ser Thr His Ser Asp His Asp Asn Ser Thr Ser Leu			
165	170	175	
Asn Gly Gly Lys Arg Ala Leu Thr Ser Ser Ala Leu His Gly Gly Glu			
180	185	190	
Met Gly Gly Ser Glu Ser Gly Asp Leu Lys Gly Gly Met Thr Asn Cys			
195	200	205	
Thr Leu Pro His Arg Ser Leu Asp Val Glu His Thr Thr Leu Tyr Ser			
210	215	220	
Asn Asn Ser Thr Ala Asn Lys Ser Phe Val Asn Ser Met Glu Gln Pro			
225	230	235	240
Ala Leu Gln Gly Ser Ser Arg Leu Ser Pro Gly Thr Asp Ser Ser Ser			
245	250	255	
Asn Leu Gly Gly Val Lys Leu Glu Gly Lys Lys Ser Pro Leu Ser Ser			
260	265	270	
Ile Leu Phe Ser Ala Leu Asp Ser Asp Thr Arg Ile Thr Ala Leu Leu			
275	280	285	
Arg Arg Gln Ala Asp Ile Glu Ser Arg Ala Arg Arg Leu Gln Lys Arg			
290	295	300	
Leu Gln Val Val Gln Ala Lys Gln Val Glu Arg His Ile Gln His Gln			
305	310	315	320
Leu Gly Gly Phe Leu Glu Lys Thr Leu Ser Lys Leu Pro Asn Leu Glu			
325	330	335	
Ser Leu Arg Pro Arg Ser Gln Leu Met Leu Thr Arg Lys Ala Glu Ala			
340	345	350	
Ala Leu Arg Lys Ala Ala Ser Glu Thr Thr Thr Ser Glu Gly Leu Ser			
355	360	365	
Asn Phe Leu Lys Ser Asn Ser Ile Ser Glu Glu Leu Glu Arg Phe Thr			
370	375	380	
Ala Ser Gly Ile Ala Asn Leu Arg Cys Ser Glu Gln Ala Phe Asp Ser			
385	390	395	400
Asp Val Thr Asp Ser Ser Ser Gly Gly Glu Ser Asp Ile Glu Glu Glu			
405	410	415	
Glu Leu Thr Arg Ala Asp Pro Glu Gln Arg His Val Pro Leu Arg Arg			
420	425	430	
Arg Ser Glu Trp Lys Trp Ala Ala Asp Arg Ala Ala Ile Val Ser Arg			

435 440 445  
 Trp Asn Trp Leu Gln Ala His Val Ser Asp Leu Glu Tyr Arg Ile Arg  
 450 455 460  
 Gln Gln Thr Asp Ile Tyr Lys Gln Ile Arg Ala Asn Lys Gly Leu Ile  
 465 470 475 480  
 Val Leu Gly Glu Val Pro Pro Pro Glu His Thr Thr Asp Leu Phe Leu  
 485 490 495  
 Pro Leu Ser Ser Glu Val Lys Thr Asp His Gly Thr Asp Lys Leu Ile  
 500 505 510  
 Glu Ser Val Ser Gln Pro Leu Glu Asn His Gly Ala Pro Ile Ile Gly  
 515 520 525  
 His Ile Ser Glu Ser Leu Ser Thr Lys Ser Cys Gly Ala Leu Arg Pro  
 530 535 540  
 Val Asn Gly Val Ile Asn Thr Leu Gln Pro Val Leu Ala Asp His Ile  
 545 550 555 560  
 Pro Gly Asp Ser Ser Asp Ala Glu Glu Gln Leu His Lys Lys Gln Arg  
 565 570 575  
 Leu Asn Leu Val Ser Ser Ser Ser Asp Gly Thr Cys Val Ala Ala Arg  
 580 585 590  
 Thr Arg Pro Val Leu Ser Cys Lys Lys Arg Arg Leu Val Arg Pro Asn  
 595 600 605  
 Ser Ile Val Pro Leu Ser Lys Lys Val His Arg Asn Ser Thr Ile Arg  
 610 615 620  
 Pro Gly Cys Asp Val Asn Pro Ser Cys Ala Leu Cys Gly Ser Gly Ser  
 625 630 635 640  
 Ile Asn Thr Met Pro Pro Glu Ile His Tyr Glu Ala Pro Leu Leu Glu  
 645 650 655  
 Arg Leu Ser Gln Leu Asp Ser Cys Val His Pro Val Leu Ala Phe Pro  
 660 665 670  
 Asp Asp Val Pro Thr Ser Leu His Phe Gln Ser Met Leu Lys Ser Gln  
 675 680 685  
 Trp Gln Asn Lys Pro Phe Asp Lys Ile Lys Pro Pro Lys Lys Leu Ser  
 690 695 700  
 Leu Lys His Arg Ala Pro Met Pro Gly Ser Leu Pro Asp Ser Ala Arg  
 705 710 715 720  
 Lys Asp Arg His Lys Leu Val Ser Ser Phe Leu Thr Thr Ala Lys Leu  
 725 730 735  
 Ser His His Gln Thr Arg Pro Asp Arg Thr His Arg Gln His Leu Asp  
 740 745 750  
 Asp Val Gly Ala Val Pro Met Val Glu Arg Val Thr Ala Pro Lys Ala  
 755 760 765  
 Glu Arg Leu Leu Asn Pro Pro Pro Pro Val His Asp Pro Asn His Ser  
 770 775 780  
 Lys Met Arg Leu Arg Asp His Ser Ser Glu Arg Ser Glu Val Leu Lys  
 785 790 795 800  
 His His Thr Asp Met Ser Ser Ser Ser Tyr Leu Ala Ala Thr His His  
 805 810 815  
 Pro Pro His Ser Pro Leu Val Arg Gln Leu Ser Thr Ser Ser Asp Ser  
 820 825 830  
 Pro Ala Pro Ala Ser Ser Ser Ser Gln Val Thr Ala Ser Thr Ser Gln  
 835 840 845  
 Gln Pro Val Arg Arg Arg Arg Gly Glu Ser Ser Phe Asp Ile Asn Asn  
 850 855 860  
 Ile Val Ile Pro Met Ser Val Ala Ala Thr Thr Arg Val Glu Lys Leu

865                      870                      875                      880  
 Gln Tyr Lys Glu Ile Leu Thr Pro Ser Trp Arg Glu Val Asp Leu Gln  
                                  885                      890                      895  
 Ser Leu Lys Gly Ser Pro Asp Glu Glu Asn Glu Glu Ile Glu Asp Leu  
                                  900                      905                      910  
 Ser Asp Ala Ala Phe Ala Ala Leu His Ala Lys Cys Glu Glu Met Glu  
                                  915                      920                      925  
 Arg Ala Arg Trp Leu Trp Thr Thr Ser Val Pro Pro Gln Arg Arg Gly  
                                  930                      935                      940  
 Ser Arg Ser Tyr Arg Ser Ser Asp Gly Arg Thr Thr Pro Gln Leu Gly  
 945                      950                      955                      960  
 Ser Ala Asn Pro Ser Thr Pro Gln Pro Ala Ser Pro Asp Val Ser Ser  
                                  965                      970                      975  
 Ser His Ser Leu Ser Glu Tyr Ser His Gly Gln Ser Pro Arg Ser Pro  
                                  980                      985                      990  
 Ile Ser Pro Glu Leu His Ser Ala Pro Leu Thr Pro Val Ala Arg Asp  
                                  995                      1000                      1005  
 Thr Leu Arg His Leu Ala Ser Glu Asp Thr Arg Cys Ser Thr Pro Glu  
                                  1010                      1015                      1020  
 Leu Gly Leu Asp Glu Gln Ser Val Gln Pro Trp Glu Arg Arg Thr Phe  
 1025                      1030                      1035                      1040  
 Pro Leu Ala His Ser Pro Gln Ala Glu Cys Glu Asp Gln Leu Asp Ala  
                                  1045                      1050                      1055  
 Gln Glu Arg Ala Ala Arg Cys Thr Arg Arg Thr Ser Gly Ser Lys Thr  
                                  1060                      1065                      1070  
 Xaa Pro Gly Asp Arg Gly Ser Ala His Leu Ala Ser His Cys Pro Pro  
                                  1075                      1080                      1085  
 Gln Glu Ser Ala Ser Gly Gly Ser Ser His Ser Ser Ala Pro Asp Ser  
                                  1090                      1095                      1100  
 Gln Met Ser Gly Arg Gln Pro Ser Lys Gln Thr His  
 1105                      1110                      1115

&lt;210&gt; 4427

&lt;211&gt; 4474

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4427

nntgtggtca gggaatccag cttcttcggg tcaactcctt cctggaggat tcggatgact  
 60  
 tcagacatca tgggcgcaag acacctggta gtatagaagc caggtccatc cttaaccaca  
 120  
 atgatgacct tcccctgctt gagaccaact gctacagctg aagcactggg gtctttggaa  
 180  
 gttttctcgg tcgtgataat ctccagcagc tgcattctgt ccacgggaga gaagtagtgc  
 240  
 atgccaatca cttcttcagg tctttttgctg acagcagcga tttcactgat tgggagagca  
 300  
 gatgtgttac tggcaaagat acagtgatct ggaatcaccg cttctacttc ctttagcact  
 360  
 ctgtgcttaa gactaaggtc ctcaaacaca gcttcaatca ccatgtcggc cttttcaaaa  
 420  
 ccttggtaat caagctgccc agtcaagttg ctgaagatgg aatccctttc aaatgatgtt  
 480

agagctttct tcttcacttt gtcattcaat cctttgaaca cttgttgctg tctcggcct  
540  
agcgcagtga ggggtggcatc ttttaagtata gtcttttagcc ccttatccac ggagacttgg  
600  
gcgatgcctg ctcccatcag ccctgcacca agaatagcca gatgcttaac atccttctgt  
660  
cttttgttgc tattctgtat tggcatgaaa tggcaacctc aagtcctcct cccaggcagg  
720  
atccattgat ggcagccaca ataggctttg tggacttttc aagtttctca actattctct  
780  
gtgcttcttg tgatagctgt gttacttctt gaagggtctt gcaagcggct aacatgttga  
840  
tatcagcacc tgcaataaag cagcctggct ttgatgagat aaggacggca cttctgattt  
900  
gatcactagc ccagatttca ttcataactt ctgagaactc tgaatgtagc tcttcagctc  
960  
aagatgggtgg cctgccgggc gattggcatc ctcagccgct tttctgcctt caggatcctc  
1020  
cgctcccag gttatatatg ccgcaatttt acagggtctt ctgctttgct gaccagaacc  
1080  
catattaact atggagtcaa aggggatgtg gcagttgttc gaattaactc tccaattca  
1140  
aaggtaaata cactgagtaa agagctacat tcagagttct cagaagttat gaatgaaatc  
1200  
tgggctagtg atcaaatcag aagtgccgct cttatctcat caaagccagg ctgctttatt  
1260  
gcaggtgctg atatcaacat gttagccgct tgcaagaccc ttcaagaagt aacacagcta  
1320  
tcacaagaag cacagagaat agttgagaaa cttgaaaagt ccacaaagcc tattgtggct  
1380  
gccatcaatg gatcctgcct gggaggagga cttgagggtg ccatttcatg ccaatacaga  
1440  
atagcaaca aagacagaaa aacagtatta ggtacccttg aagttttgct gggggcctta  
1500  
ccaggagcag gaggcacaca aaggctgccc aaaatgggtg gtgtgcctgc tgctttggac  
1560  
atgatgctga ctggtagaag cattcgtgca gacagggcaa agaaaatggg actggttgac  
1620  
caactgggtg aacccttggg accaggacta aaacctccag aggaacggac aatagaatac  
1680  
ctagaagaag ttgcaattac ttttgccaaa ggactagctg ataagaagat ctctccaaag  
1740  
agagacaagg gattgggtgga aaaattgaca gcgtatgcca tgactattcc atttgtcagg  
1800  
caacaggttt acaaaaaagt ggaagaaaaa gtgcgaaagc agactaaagg cctttatcct  
1860  
gcacctctga aaataattga tgtggtaaag actggaattg agcaaggag tgatgccggt  
1920  
tatctctgtg aatctcagaa atttggagag cttgtaatga ccaaagaatc aaaggccttg  
1980  
atgggactct accatgggtca ggtcctgtgc aagaagaata aatttggagc cccacagaag  
2040  
gatgttaagc atctggctat tcttggtgca gggctgatgg gagcaggcat cgcccaagtc  
2100

tccgtggata aggggctaaa gactatactt aaagatgcca ccctcactgc gctagaccga  
2160  
ggacagcaac aagtgttcaa aggattgaat gacaaagtga agaagaaagc tctaacaatca  
2220  
tttgaaaggg attccatctt cagcaacttg actgggcagc ttgattacca aggttttgaa  
2280  
aaggccgaca tgggtgattga agctgtgttt gaggacctta gtcttaagca cagagtgcata  
2340  
aaggaagtag aagcggatgat tccagatcac tgtatctttg ccagtaacac atctgctctc  
2400  
ccaatcagtg aaatcgctgc tgtcagcaaa agacctgaga aggtgattgg catgcactac  
2460  
ttctctcccc tggacaagat gcagctgctg gagattatca cgaccgagaa aacttccaaa  
2520  
gacaccagtg cttcagctgt agcagttggc ctcaagcagg ggaaggatcat cattgtgggt  
2580  
aaggatggac ctggcttcta tactaccagg tgtcttgccg ccatgatgtc tgaagtcata  
2640  
cgaatcctcc aggaaggagt tgacctgaag aagctggatt ccctgaccac aagctttggc  
2700  
tttctgtggg gtgccgccac actggtggat gaagttgggt tggatgtagc gaaacatgtg  
2760  
gcggaagatc tgggcaaagt ctttggggag cggtttggag gtggaaaccc agaactgctg  
2820  
acacagatgg tgtccaaggg cttcctaggt cgtaaactct ggaagggtct ttacatctat  
2880  
caggaggggtg tgaagaggaa ggatttgaat tctgacatgg atagtatttt agcaggtctg  
2940  
aagctgcctc ctaagtctga agtctcatca gacgaagaca tccagttccg cctggtgaca  
3000  
agatttgtga atgaggcagt catgtgcctg caagagggga tcttgccac acctgcagag  
3060  
ggagacatcg gagccgtctt tgggcttggc ttcccgcctt gtctgggagg gcctttccgc  
3120  
tttgtggatc tgtatggcgc ccagaagata gtggaccggc tcaagaaata tgaagctgcc  
3180  
tatggaaaac agttcacccc atgccagctg ctagctgacc atgctaacag ccctaacaag  
3240  
aagttctacc agtgagcagg cctcatgcct cgctcagtca gttttcagat aagccggtgc  
3300  
aagaccgggg tttggtgggt acggacctca aagctgagag tgtggttctt gagcatcgca  
3360  
gctactgctc ggcaaaggcc cgggacagac actttgctgg ggatgtactg ggctatgtca  
3420  
ctccatggaa cagccatggc tacgatgtca ccaaggctct tgggagcaag ttcacacaga  
3480  
tctcaccgt ctggctgcag ctgaagagac gtggccgtga gatgtttgag gtcacgggcc  
3540  
tccacgacgt ggaccagggg tggatgcgag ctgtcaggaa gcatgccaag ggctgcaca  
3600  
tagtgctcgt gctcctgttt gaggactgga cttacgatga tttccggaac gtcttagaca  
3660  
gtgaggatga gatagaggag ctgagcaaga ccgtggtcca ggtggcaaag aaccagcatt  
3720



tcgatggctt cgtggtggag gtctggaacc agctgctaag ccagaagcgc gtgggcctca  
 3780  
 tccacatgct caccacttg gccgaggctc tgcaccaggc ccggctgctg gccctcctgg  
 3840  
 tcatcccgcc tgccatcacc cccgggaccg accagctggg catgttcacg cacaaggagt  
 3900  
 ttgagcagct ggccccctg ctggatggtt tcagcctcat gacctacgac tactctacag  
 3960  
 cgcacagcc tggccctaata gacccctgt cctgggttcg agcctgcgctc caggtcctgg  
 4020  
 acccgaagtc caagtggcga agcaaaatcc tcctggggct caacttctat ggtatggact  
 4080  
 acgcgacctc caaggatgcc cgtgagcctg ttgtcggggc caggtacatc cagacactga  
 4140  
 aggaccacag gccccggatg gtgtgggaca gccaggcctc agagcacttc ttcgagtaca  
 4200  
 agaagagccg cagtgggagg cacgtcgtct tctacccaac cctgaagtcc ctgcaggtgc  
 4260  
 ggctggagct ggccccgggag ctgggcgttg ggggtctctat ctgggagctg ggccagggcc  
 4320  
 tggactactt ctacgacctg ctctaggtgg gcattgcggc ctccgcggtg gacgtgttct  
 4380  
 tttctaagcc atggagtgag tgagcaggtg tgaaatacag gcctccactc cgtttgctgt  
 4440  
 gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa  
 4474

&lt;210&gt; 4428

&lt;211&gt; 763

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4428

Met	Val	Ala	Cys	Arg	Ala	Ile	Gly	Ile	Leu	Ser	Arg	Phe	Ser	Ala	Phe
1				5					10					15	
Arg	Ile	Leu	Arg	Ser	Arg	Gly	Tyr	Ile	Cys	Arg	Asn	Phe	Thr	Gly	Ser
		20						25					30		
Ser	Ala	Leu	Leu	Thr	Arg	Thr	His	Ile	Asn	Tyr	Gly	Val	Lys	Gly	Asp
		35					40					45			
Val	Ala	Val	Val	Arg	Ile	Asn	Ser	Pro	Asn	Ser	Lys	Val	Asn	Thr	Leu
		50				55					60				
Ser	Lys	Glu	Leu	His	Ser	Glu	Phe	Ser	Glu	Val	Met	Asn	Glu	Ile	Trp
				70					75					80	
Ala	Ser	Asp	Gln	Ile	Arg	Ser	Ala	Val	Leu	Ile	Ser	Ser	Lys	Pro	Gly
			85					90						95	
Cys	Phe	Ile	Ala	Gly	Ala	Asp	Ile	Asn	Met	Leu	Ala	Ala	Cys	Lys	Thr
			100					105					110		
Leu	Gln	Glu	Val	Thr	Gln	Leu	Ser	Gln	Glu	Ala	Gln	Arg	Ile	Val	Glu
		115					120					125			
Lys	Leu	Glu	Lys	Ser	Thr	Lys	Pro	Ile	Val	Ala	Ala	Ile	Asn	Gly	Ser
		130					135					140			
Cys	Leu	Gly	Gly	Gly	Leu	Glu	Val	Ala	Ile	Ser	Cys	Gln	Tyr	Arg	Ile
				145			150			155				160	
Ala	Thr	Lys	Asp	Arg	Lys	Thr	Val	Leu	Gly	Thr	Pro	Glu	Val	Leu	Leu

3622

	595		600		605	
Glu	Arg	Phe	Gly	Gly	Gly	Asn
	610		615		620	
Lys	Gly	Phe	Leu	Gly	Arg	Lys
625			630		635	
Glu	Gly	Val	Lys	Arg	Lys	Asp
			645		650	
Ala	Ser	Leu	Lys	Leu	Pro	Pro
			660		665	
Ile	Gln	Phe	Arg	Leu	Val	Thr
			675		680	
Leu	Gln	Glu	Gly	Ile	Leu	Ala
			690		695	
Val	Phe	Gly	Leu	Gly	Phe	Pro
705			710		715	
Val	Asp	Leu	Tyr	Gly	Ala	Gln
			725		730	
Glu	Ala	Ala	Tyr	Gly	Lys	Gln
			740		745	
His	Ala	Asn	Ser	Pro	Asn	Lys
			755		760	

&lt;210&gt; 4429

&lt;211&gt; 981

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4429

agatctccag caggggtggca aaactgggca cctctctctc ccagcaagag tgagagccct  
 60  
 aatccaggca tcaacttgccc ctgattttat ttcattttca cacactctgt ttaggagaca  
 120  
 ctgcttgctc caactggctc catctctccg ttaccgggtga ggcaggcaca gtgctgcagt  
 180  
 ggcagaatgg aagtaccag gctgacttgc tctcagccag acacgacctc ttctctgagg  
 240  
 aggggtgatgc caataaatgg aactccaata ggtaggcttc gctctgccct tccacaagtg  
 300  
 aacacacgcc gtgagtcctt aaatcgccag gctccgcagc ctgcagaaa gcctagtctc  
 360  
 cagacggtag gtatcccatt catcccttgg catcggaac caaagggaaat gcagacagat  
 420  
 cccggtcgtg cactacattc ccaaacttg gcacgcacgc gaaggcttgg ggcgccccgg  
 480  
 cgcgcccttc ctccgaggcc tccaccaccc gcggactcac cactatgcga gctgaaccac  
 540  
 ctgggtgcga tgtgcagagg tagagcatcc gccagcgagg ttctgggagg cccggttacc  
 600  
 gcttcccgtt tttatggtng accgccgccg gtctcttgg aaccattgcc atgggcatag  
 660  
 gtggagtcgg acgcagaccc tccgccgccg ggcgccacta ccaccctgag gtgtccaaag  
 720  
 ccgcagcgt catcaaccag gccctgtcca tgccctgaggt cagcatcgcg cacaccaacg  
 780

acacgccctt ctctctctct ctctctctct ctctctctct cteccccgtc tnnccctccc  
 840  
 gagttctccg gctctcgcgg ccggcggggc cgggcggcga acgaacgagc gagcgaacga  
 900  
 acgggcacgc gggccccgcc cgcgcacgcg ccgcgtcgcg gtgggggggt ggggtgtgcgg  
 960  
 aggggaagcgc gcggcggcgg c  
 981

<210> 4430  
 <211> 151  
 <212> PRT  
 <213> Homo sapiens

<400> 4430  
 Met Glu Val Pro Arg Leu Thr Cys Ser Gln Pro Asp Thr Thr Ser Ser  
 1 5 10 15  
 Leu Arg Arg Val Met Pro Ile Asn Gly Thr Pro Ile Gly Arg Leu Arg  
 20 25 30  
 Ser Ala Leu Pro Gln Val Asn Thr Arg Arg Glu Ser Leu Asn Arg Gln  
 35 40 45  
 Ala Pro Gln Pro Arg Arg Lys Pro Ser Phe Gln Thr Val Gly Ile Pro  
 50 55 60  
 Phe Ile Pro Trp His Arg Glu Pro Lys Gly Met Gln Thr Asp Pro Gly  
 65 70 75 80  
 Arg Ala Leu His Ser Gln Thr Leu Ala Arg Thr Arg Arg Leu Gly Ala  
 85 90 95  
 Pro Arg Arg Ala Leu Pro Pro Arg Pro Pro Pro Pro Ala Asp Ser Pro  
 100 105 110  
 Leu Cys Glu Leu Asn His Leu Gly Ala Met Cys Arg Gly Arg Ala Ser  
 115 120 125  
 Ala Ser Glu Val Leu Gly Gly Pro Val Thr Ala Ser Arg Phe Tyr Gly  
 130 135 140  
 Xaa Pro Pro Pro Val Ser Trp  
 145 150

<210> 4431  
 <211> 507  
 <212> DNA  
 <213> Homo sapiens

<400> 4431  
 ggtggcgagt tcagggaggc tttcaaggag gccagcaagg tgcctttctg caagttccac  
 60  
 ctgggtgacc gaccatccc cgtcaccttc aagagggcca tcgcagcgct ctctttctgg  
 120  
 cagaaggtca ggctggcttg gggcctgtgc ttcctgtcag accccatcag gtagggctgc  
 180  
 ccccgaggacc ctggcgggcc tgcaggggtg tctgtgggag gctccaggcc ctctgtgca  
 240  
 ggtccaagcg cagccaatcc tcaactcaagg ccttcctgc ctttccttc cgccacaaat  
 300  
 cccaaacaaa cgtgctgtgg tccctgcccg gtgtccacag tgccagcccc accctccag  
 360

cccgttgccc atccctgcgg ggctgcagcc atccctctcc acagcaagga tgacgtggaa  
 420  
 cgctgcaagc agaaggccta ctggagcaga tgatggccga gatgattggc gagttcccag  
 480  
 acctgcaccg caccatcggt tttggag  
 507

<210> 4432  
 <211> 57  
 <212> PRT  
 <213> Homo sapiens

<400> 4432  
 Gly Gly Glu Phe Arg Glu Ala Phe Lys Glu Ala Ser Lys Val Pro Phe  
 1 5 10 15  
 Cys Lys Phe His Leu Gly Asp Arg Pro Ile Pro Val Thr Phe Lys Arg  
 20 25 30  
 Ala Ile Ala Ala Leu Ser Phe Trp Gln Lys Val Arg Leu Ala Trp Gly  
 35 40 45  
 Leu Cys Phe Leu Ser Asp Pro Ile Arg  
 50 55

<210> 4433  
 <211> 447  
 <212> DNA  
 <213> Homo sapiens

<400> 4433  
 ntgtacaaca cctcgtcgcc gagggagatg gtggcccagt tcctcctcgt ggacggcaac  
 60  
 gtgaccaaca tcaccaccgt cagcctctgg gaagaattct cctccagcga cctcgcagat  
 120  
 ctccgcttcc tggacatgag ccagaaccag ttccagtacc tgccagacgg ctctctgagg  
 180  
 aaaatgcctt ccctctccca cctgaacctc caccagaatt gcctgatgac gcttcacatt  
 240  
 cgggagcacg agccccccgg agcgctcacc gagctggacc tgagccacaa ccagctgtcg  
 300  
 gagctgcacc tggctccggg gctggccagc tgctgggca gcctgcgctt gttcaacctg  
 360  
 agtccaacc agctcctggg cgtccccctt ggctctctcg ccaatgctag gaacatcact  
 420  
 acatttgaca tgagccacaa tcagatc  
 447

<210> 4434  
 <211> 149  
 <212> PRT  
 <213> Homo sapiens

<400> 4434  
 Xaa Tyr Asn Thr Ser Ser Pro Arg Glu Met Val Ala Gln Phe Leu Leu  
 1 5 10 15  
 Val Asp Gly Asn Val Thr Asn Ile Thr Thr Val Ser Leu Trp Glu Glu

```
<210> 4435
<211> 783
<212> DNA
<213> Homo sapiens
```

<210> 4436

<211> 261  
 <212> PRT  
 <213> Homo sapiens

<400> 4436  
 Xaa Ala Arg Asp Glu Val Arg Asn Val Phe Arg Glu Leu Gln Ile Met  
 1 5 10 15  
 Gln Gly Leu Glu His Pro Phe Val Val Asn Leu Trp Tyr Ser Phe Gln  
 20 25 30  
 Asp Glu Glu Asp Met Phe Met Val Val Asp Leu Leu Leu Gly Gly Asp  
 35 40 45  
 Leu Arg Tyr His Leu Gln Gln Asn Val His Phe Thr Glu Gly Thr Val  
 50 55 60  
 Lys Leu Tyr Ile Cys Glu Leu Ala Leu Ala Leu Glu Tyr Leu Gln Arg  
 65 70 75 80  
 Tyr His Ile Ile His Arg Asp Ile Lys Pro Asp Asn Ile Leu Leu Asp  
 85 90 95  
 Glu His Gly His Val His Ile Thr Asp Phe Asn Ile Ala Thr Val Val  
 100 105 110  
 Lys Gly Ala Glu Arg Ala Ser Ser Met Ala Gly Thr Lys Pro Tyr Met  
 115 120 125  
 Ala Pro Glu Val Phe Gln Val Tyr Met Asp Arg Gly Pro Gly Tyr Ser  
 130 135 140  
 Tyr Pro Val Asp Trp Trp Ser Leu Gly Ile Thr Ala Tyr Glu Leu Leu  
 145 150 155 160  
 Arg Gly Trp Arg Pro Tyr Glu Ile His Ser Val Thr Pro Ile Asp Glu  
 165 170 175  
 Ile Leu Asn Met Phe Lys Val Glu Arg Val His Tyr Ser Ser Thr Trp  
 180 185 190  
 Cys Lys Gly Met Val Ala Leu Leu Arg Lys Leu Leu Thr Lys Asp Pro  
 195 200 205  
 Glu Ser Arg Val Ser Ser Leu His Asp Ile Gln Ser Val Pro Tyr Leu  
 210 215 220  
 Ala Asp Met Asn Trp Asp Ala Val Phe Lys Lys Ala Leu Met Pro Gly  
 225 230 235 240  
 Phe Val Pro Asn Lys Gly Arg Leu Asn Cys Asp Pro Thr Phe Glu Leu  
 245 250 255  
 Glu Glu Met Ile Leu  
 260

<210> 4437  
 <211> 620  
 <212> DNA  
 <213> Homo sapiens

<400> 4437  
 nnctgcaggg tgtacgtggt ggggacagcc cacttcagcg acgacagcaa gagggacgtt  
 60  
 gtgaagacca tccgggaggt gcagcctgac gtggtggtcg tggagctctg ccaatatcgt  
 120  
 gtgtccatgc tgaagatgga cgagagcacg ctgctgcggg aggcccagga gctcagcctg  
 180  
 gagaagctgc agcaggccgt gaggcagaac gggctcatgt cggggctgat gcagatgctg  
 240

ctgctgaagg tgtctgcaca catcaccgag cagctgggca tggccccagg tggcgagttc  
 300  
 agggaggcct tcaaggaggc cagcaagggtg cctttctgca agttccacct gggtgaccga  
 360  
 cccatccccg tcaccttcaa gagggccatc gcagcgctct ccttctggca gaaggtcagg  
 420  
 ctggcttggg gcctgtgctt cctgtcagac cccatcagca aggatgacgt ggaacgctgc  
 480  
 aagcagaagg acctactgga gcagatgatg gccgagatga ttggcgagtt cccagacctg  
 540  
 caccgcacca tcgtctcgga gcgcgacgtc tacctaacct acatgctgcg ccaggccgcg  
 600  
 cggcgcctcg agctgcctcg  
 620

<210> 4438  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

<400> 4438  
 Xaa Cys Arg Val Tyr Val Val Gly Thr Ala His Phe Ser Asp Asp Ser  
 1 5 10 15  
 Lys Arg Asp Val Val Lys Thr Ile Arg Glu Val Gln Pro Asp Val Val  
 20 25 30  
 Val Val Glu Leu Cys Gln Tyr Arg Val Ser Met Leu Lys Met Asp Glu  
 35 40 45  
 Ser Thr Leu Leu Arg Glu Ala Gln Glu Leu Ser Leu Glu Lys Leu Gln  
 50 55 60  
 Gln Ala Val Arg Gln Asn Gly Leu Met Ser Gly Leu Met Gln Met Leu  
 65 70 75 80  
 Leu Leu Lys Val Ser Ala His Ile Thr Glu Gln Leu Gly Met Ala Pro  
 85 90 95  
 Gly Gly Glu Phe Arg Glu Ala Phe Lys Glu Ala Ser Lys Val Pro Phe  
 100 105 110  
 Cys Lys Phe His Leu Gly Asp Arg Pro Ile Pro Val Thr Phe Lys Arg  
 115 120 125  
 Ala Ile Ala Ala Leu Ser Phe Trp Gln Lys Val Arg Leu Ala Trp Gly  
 130 135 140  
 Leu Cys Phe Leu Ser Asp Pro Ile Ser Lys Asp Asp Val Glu Arg Cys  
 145 150 155 160  
 Lys Gln Lys Asp Leu Leu Glu Gln Met Met Ala Glu Met Ile Gly Glu  
 165 170 175  
 Phe Pro Asp Leu His Arg Thr Ile Val Ser Glu Arg Asp Val Tyr Leu  
 180 185 190  
 Thr Tyr Met Leu Arg Gln Ala Ala Arg Arg Leu Glu Leu Pro  
 195 200 205

<210> 4439  
 <211> 2121  
 <212> DNA  
 <213> Homo sapiens

<400> 4439



nttttttttt ttgaacttct atatctatat tttatatattt aagattggga cagagaaact  
60  
tcccagatat ttgacgtaag aatttgtttt gaaaaagttt ggtaattaat ataaaaactac  
120  
tctaaaatta actttttattg ttagagacac atcttttagaa aagtttgtaa atatcaacat  
180  
ttaccatctt attttttcct ttgagaccaa gcatcacaga ccaaaagcca caaagtttac  
240  
aataatttat tattgttgca tgacatttgc cagtaaaata aattatagaa actatagagt  
300  
ctttataaac tattttgtat atcatattca ctctctaagt cttactgcag taactgtatg  
360  
aaatttaatt agattacgtt ttagcattag tcagaagatt taaaaaatat gtaaaatggt  
420  
ttcacagtac tttggattta taaaagaccc cattatttta acttttgtgc aacctgtttg  
480  
aaatgtataa aaaacctttt acaaaccaaa aggtggcgta aggttttact gagttgctga  
540  
agacatctta ctttcttgaa tttctactta acatccatgt ggtgcacttt ttcaggcatt  
600  
gtaataagtg caaataaata atcaattatt gattttctaaa aatctatacc aatagacaat  
660  
actcaggctt ggaaatattt tgaacactca gatataaaaa ttcagtaaac aatttatgca  
720  
tggtattttt tctccctgtc ctccctctcc ctccctccctt cccctatcta tttggttaaa  
780  
aaaaaaaaag ttcaacttcg atttaagtcc tagggcctga caaagtgacc ctggataaat  
840  
gtcatctcca gccatctgtt ttcttttagtt ctccattacat ctgtccaggc tcttctatca  
900  
gcatcaatcc tttcctgcag ggacggaaga gttttcaaact ccttgctgaa agcattttgt  
960  
tctcctctgt aacagcacag ggcattgaaat tgtttggagt ctttgtaacc agtctgttca  
1020  
gtcctgggtc ctttccagtc ccggtccctt tccagcctct ggagtcctga cagaagagaa  
1080  
gcttgtaagg tagcagcaaa atgctgcac tgttagaatc tcacaaactc acttgggtctt  
1140  
tgaatgtcca ttcttggata acgtccttat ccctcctctt ctcttcagtg aactttgatg  
1200  
gaatatttcc gcagtttcag aaactggaaa agcttgtctt ttgtcctctt cttcaaggcc  
1260  
atcagggcac gcgttttctc ctccacatct tgatctatgg caaaaatgat cttggctctc  
1320  
tctctgtctt tcttgtctcc agagtctctg aagagccttt ctagtgatcc ttgggtctgtg  
1380  
ttttcaaaga tgttgcccac ggctttctta cgagaggctg tgtcgaagtg gtagccatgg  
1440  
atggatgggc tgactcgtag cgacgtggac atgatgatgg cttgggtggct tcgctttgct  
1500  
ttcatcgatg tggggatctt ccggaattca gctcccaggc tttccatgat tggagctgat  
1560  
tcactgaag agaaattttt gcgtagaatt ggaagattcg gttatgggta tggcccttat  
1620

cagccagttc cagaacaacc actataccca caaccatacc aaccacaata ccaacaatat  
 1680  
 accttttaat atcatcagta actgcaggac atgattatgg aggtttgact ggcaaatacg  
 1740  
 acttctacat ccatattctc atctttcata ccatatcaca ctactaccac tttttgaaga  
 1800  
 attatcataa ggcaatgcag aataaaagaa ataccatgat ttactgtata ctctttgttt  
 1860  
 caggatactt cccttcttaa ttatcatttg attagatact tgcaatttaa actgttaagc  
 1920  
 tgtgttcact gctgtttctg aataatagaa attcattcct ctccaaaagc aataaatttc  
 1980  
 aagcacattt tccaatacct gtggcatcac actactacca ctttttgaag aatcatcaaa  
 2040  
 gggcaatgca aatgaaaaac attataattt actgtatact ctttgtttca ggatacttgc  
 2100  
 cttttcaatt gtcacttgat g  
 2121

<210> 4440

<211> 82

<212> PRT

<213> Homo sapiens

<400> 4440

Met	Asp	Gly	Leu	Thr	Arg	Ser	Asp	Val	Asp	Met	Met	Met	Ala	Trp	Trp
1				5				10					15		
Leu	Arg	Phe	Ala	Phe	Ile	Asp	Val	Gly	Ile	Phe	Arg	Asn	Ser	Ala	Pro
		20					25					30			
Arg	Leu	Ser	Met	Ile	Gly	Ala	Asp	Ser	Ser	Glu	Glu	Lys	Phe	Leu	Arg
		35				40						45			
Arg	Ile	Gly	Arg	Phe	Gly	Tyr	Gly	Tyr	Gly	Pro	Tyr	Gln	Pro	Val	Pro
	50					55					60				
Glu	Gln	Pro	Leu	Tyr	Pro	Gln	Pro	Tyr	Gln	Pro	Gln	Tyr	Gln	Gln	Tyr
65					70				75						80
Thr	Phe														

<210> 4441

<211> 2055

<212> DNA

<213> Homo sapiens

<400> 4441

nttaggaagg gaggggaagg ggaaggcgag aaggggagag gcaggggaaa gaggggaaga  
 60  
 gtcgtgggag ctgggagagg agggaaagag gggaagagtc gtgggagctg gcagaggagg  
 120  
 gaaaggggga gccgaacgtg aagggcgaag ggcggggcgg ggcaggagag tcgggggtata  
 180  
 gagcaggcag gtgttaatgg catgggaagg aagagtaaga agtggggcaa gaaggtgtcg  
 240  
 cggtagcagg ggaaggtgag actcaagaag gtgccggcta agaagctggt gccggcgctg  
 300

aaggagaagg tgctgtgggc cctgctggca gtgctcctgg cgtcgtggag gctgtgggcg  
360  
atcaaggatt tccaggaatg cacctggcag gttgtcctga acgagtttaa gagggtaggc  
420  
gagagtgggtg tgagcgacag cttctttgag caagagccccg tggacacagt gagcagcttg  
480  
tttcacatgc tgggtggactc acccatcgac ccgagcgaga aatacctggg cttcccttac  
540  
tacctgaaga tcaactactc ctgcgaggaa aagccctctg aggacctggg gcgcatgggc  
600  
cacctgacgg ggctaaagcc cctggtgctg gtcaccttcc agtccccagt caacttctac  
660  
cgctggaaga tagagcagct gcagatccag atggaggctg ccccttccg cagcaaaggt  
720  
gggcctgggg gaggcgggag ggatcgcaac ctggcagggg tgaatatcaa cggcttctctg  
780  
aagagagacc gggacaataa catccaattc actgtgggag aggagctctt caacctgatg  
840  
ccccagtact ttgtgggtgt ctcatcgagg ccttctgggc aactgtgga ccagtcacct  
900  
gtgcttatcc tgggagggcat tcccaatgag aagtacgtcc tgatgactga caccagcttc  
960  
aaggacttct ctctcgtgga ggtgaacggg gtggggcaga tgctgagcat tgacagttgc  
1020  
tgggtgggct ccttctactg ccccatctt ggcttcacag ccaccatcta tgacactatt  
1080  
gccaccgaga gcacctctt cattcggcag aaccagctgg tctactatct tacaggcacc  
1140  
tataccacac tctatgagag aaaccgcggc agtgggtgagt gtgctgtggc tggaccacg  
1200  
cctggggagg gcacctggg gaaccctcc actgaaggca gttggattcg tgtcctggcc  
1260  
agcgagtgc tcaagaagct gtgcctgtg tatttccata gcaatggctc tgagtacata  
1320  
atggcctca ccacgggcaa gcatgagggt tatgtacact tcgggacat cagagttacc  
1380  
acctgctcca taatttggtc tgaatacatc gcgggtgagt atactctact gctgctgggtg  
1440  
gagagtggat atggtaatgc aagtaaactg ttccagggtg tcagctacaa cacagctagt  
1500  
gatgacctgg aacttctcta ccacatccca gaattcatcc ctgaagctcg aggattggag  
1560  
ttcctgatga tctagggac agagtcctac accagcactg caatggcccc caagggcatc  
1620  
ttctgtaacc cgtacaacaa tctgatcttc atctggggca acttctcct gcagagatct  
1680  
ggtacctcct ggagggcagc taccgggtct accagctgtt cccttccaag ggctggcagg  
1740  
tgacatcag cttaaagctg atgcaacagt cctctctcta cgcaccaat gagaccatgc  
1800  
tgacctctt ctacgaagac agcaaactgt accaggtgcc cgggtggagct atgcggggac  
1860  
atcggggcac cccaggaggg ctgacccag ctcacctggc cctgccttcc ccctgcagct  
1920

ggtgtacctt atgaacaacc agaagggcca gctgggtcaag aggctcgtgc ccgtggagca  
 1980  
 gcttctgatg tatcaacagc acaccagcca ctatgacttg gagcggaaaag ggtgagaaga  
 2040  
 caccggacca tgaca  
 2055

<210> 4442  
 <211> 517  
 <212> PRT  
 <213> Homo sapiens

<400> 4442  
 Met Gly Arg Lys Ser Lys Lys Trp Gly Lys Lys Val Ser Arg Tyr Glu  
 1 5 10 15  
 Gly Lys Val Arg Leu Lys Lys Val Pro Ala Lys Lys Leu Val Pro Ala  
 20 25 30  
 Trp Lys Glu Lys Val Leu Trp Ala Leu Leu Ala Val Leu Leu Ala Ser  
 35 40 45  
 Trp Arg Leu Trp Ala Ile Lys Asp Phe Gln Glu Cys Thr Trp Gln Val  
 50 55 60  
 Val Leu Asn Glu Phe Lys Arg Val Gly Glu Ser Gly Val Ser Asp Ser  
 65 70 75 80  
 Phe Phe Glu Gln Glu Pro Val Asp Thr Val Ser Ser Leu Phe His Met  
 85 90 95  
 Leu Val Asp Ser Pro Ile Asp Pro Ser Glu Lys Tyr Leu Gly Phe Pro  
 100 105 110  
 Tyr Tyr Leu Lys Ile Asn Tyr Ser Cys Glu Glu Lys Pro Ser Glu Asp  
 115 120 125  
 Leu Val Arg Met Gly His Leu Thr Gly Leu Lys Pro Leu Val Leu Val  
 130 135 140  
 Thr Phe Gln Ser Pro Val Asn Phe Tyr Arg Trp Lys Ile Glu Gln Leu  
 145 150 155 160  
 Gln Ile Gln Met Glu Ala Ala Pro Phe Arg Ser Lys Gly Gly Pro Gly  
 165 170 175  
 Gly Gly Gly Arg Asp Arg Asn Leu Ala Gly Met Asn Ile Asn Gly Phe  
 180 185 190  
 Leu Lys Arg Asp Arg Asp Asn Asn Ile Gln Phe Thr Val Gly Glu Glu  
 195 200 205  
 Leu Phe Asn Leu Met Pro Gln Tyr Phe Val Gly Val Ser Ser Arg Pro  
 210 215 220  
 Leu Trp His Thr Val Asp Gln Ser Pro Val Leu Ile Leu Gly Gly Ile  
 225 230 235 240  
 Pro Asn Glu Lys Tyr Val Leu Met Thr Asp Thr Ser Phe Lys Asp Phe  
 245 250 255  
 Ser Leu Val Glu Val Asn Gly Val Gly Gln Met Leu Ser Ile Asp Ser  
 260 265 270  
 Cys Trp Val Gly Ser Phe Tyr Cys Pro His Ser Gly Phe Thr Ala Thr  
 275 280 285  
 Ile Tyr Asp Thr Ile Ala Thr Glu Ser Thr Leu Phe Ile Arg Gln Asn  
 290 295 300  
 Gln Leu Val Tyr Tyr Phe Thr Gly Thr Tyr Thr Thr Leu Tyr Glu Arg  
 305 310 315 320  
 Asn Arg Gly Ser Gly Glu Cys Ala Val Ala Gly Pro Thr Pro Gly Glu

325 330 335  
 Gly Thr Leu Val Asn Pro Ser Thr Glu Gly Ser Trp Ile Arg Val Leu  
 340 345 350  
 Ala Ser Glu Cys Ile Lys Lys Leu Cys Pro Val Tyr Phe His Ser Asn  
 355 360 365  
 Gly Ser Glu Tyr Ile Met Ala Leu Thr Thr Gly Lys His Glu Gly Tyr  
 370 375 380  
 Val His Phe Gly Thr Ile Arg Val Thr Thr Cys Ser Ile Ile Trp Ser  
 385 390 395 400  
 Glu Tyr Ile Ala Gly Glu Tyr Thr Leu Leu Leu Leu Val Glu Ser Gly  
 405 410 415  
 Tyr Gly Asn Ala Ser Lys Arg Phe Gln Val Val Ser Tyr Asn Thr Ala  
 420 425 430  
 Ser Asp Asp Leu Glu Leu Leu Tyr His Ile Pro Glu Phe Ile Pro Glu  
 435 440 445  
 Ala Arg Gly Leu Glu Phe Leu Met Ile Leu Gly Thr Glu Ser Tyr Thr  
 450 455 460  
 Ser Thr Ala Met Ala Pro Lys Gly Ile Phe Cys Asn Pro Tyr Asn Asn  
 465 470 475 480  
 Leu Ile Phe Ile Trp Gly Asn Phe Leu Leu Gln Arg Ser Gly Thr Ser  
 485 490 495  
 Trp Arg Ala Ala Thr Gly Ser Thr Ser Cys Ser Leu Pro Arg Ala Gly  
 500 505 510  
 Arg Cys Thr Ser Ala  
 515

&lt;210&gt; 4443

&lt;211&gt; 692

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4443

agatctggag ggagggttaag ggctgggtttc atgctgactt catttctggt tggatggcct  
 60  
 ccagggttaag gtctgggccc ctgctgctga catccccac atgtcagtct gcctgctagt  
 120  
 gggattgact aactcatcaa cgtggagttt aatgcccac caagtgcaga ccacgctcct  
 180  
 gttttgcgtc accctctgcg aagcttctctg caaacttgac tccttgccca gtgccccag  
 240  
 ccccaaggct ggtctccagg aggtaaggcc cgccctgcag gcaacaccgg tgcttgggct  
 300  
 cctgctgagc agttctttcc tgcgagtaac agaaccaggg agggaggtgg gctgtggcct  
 360  
 ccctgcccc tacagtcac tcctgcagct cccaccatgc tggactcatc agcagcagag  
 420  
 caagtgaccc gactgacgct gaagctcttg ggacagaagc tggagcaaga acggcagaac  
 480  
 gtggaagggg gacctgaggg ctccacctcg agccaggaaa tgaggaccgg ccggacgatg  
 540  
 ccctgcagac tgctctgaag agaaggaggg accttctgca gagactccgg gaacaacacc  
 600  
 tcttggacga gctctctcgg gcccaggcct ggagcggggc aagcagagga gccctcgagt  
 660

cagccctgcc cccagagctg cccccacgc gt  
692

<210> 4444  
<211> 108  
<212> PRT  
<213> Homo sapiens

<400> 4444  
Met Ser Val Cys Leu Leu Val Gly Leu Thr Asn Ser Ser Thr Trp Ser  
1 5 10 15  
Leu Met Pro Asn Gln Val Gln Thr Thr Leu Leu Phe Cys Val Thr Leu  
20 25 30  
Cys Glu Ala Ser Cys Lys Leu Asp Ser Leu Pro Ser Ala Pro Ser Pro  
35 40 45  
Lys Ala Gly Leu Gln Glu Val Arg Pro Ala Leu Gln Ala Thr Pro Val  
50 55 60  
Leu Gly Leu Leu Leu Ser Ser Ser Phe Leu Arg Val Thr Glu Pro Gly  
65 70 75 80  
Arg Glu Val Gly Cys Gly Leu Pro Cys Pro Tyr Ser His Leu Leu Gln  
85 90 95  
Leu Pro Pro Cys Trp Thr His Gln Gln Gln Ser Lys  
100 105

<210> 4445  
<211> 901  
<212> DNA  
<213> Homo sapiens

<400> 4445  
ggatccactg cctctgtgcc tgccctgtact gccgatgctc cagtggataa ctcagcatcc  
60  
cagccaaggc ccaatgccac tgaagatgga cctgccccct ggggaccag gagtcctacc  
120  
actcagctgt cccaggagt gccagaccc tcattcttat ccaggaccta ggagccctac  
180  
ccctggcctt ccctcatcag ccgtaaata tgatttactg ctgttaccat catcactgcc  
240  
ttcagtgacc aagggccttc caaggtgcca gctctggaac gaaggatgcc cttgggaggt  
300  
gatgatactc aggtacacgg gtgctcaaca gattgcttcc tcctatcctc agacggtctt  
360  
tgcattgatg cagccattgg cactcccatt gtgtggaagg aaaccagccc agggtcacac  
420  
agctggtcag cagcaacata gctgggtctca aatctaaggt gcctgacat gcctccatga  
480  
gggaccgcct ccaagggagg ttgatcctgg ctttggggag ctttctctgg gctgcacgaa  
540  
taacctccat tgttcgagac cccaaactct gctcacatct tcctttccct gtctctgctt  
600  
gggctatgat cacggtgact ctagcaaccc ttcattggaca ttataatact ctctgccatt  
660  
cacttttggg ctaatctgac ttcaaccccc acttacttgg tctctccttt tacaaccaac  
720

atggcaaaac cccatctcca caaaaattgg ataatttgat aattatcatt attgggtttc  
 780  
 tgagacgtta cacatttaac attctcttct gcacaagttg cctttgtgtg agtataactaa  
 840  
 ctttctgtag aggtatactt gtaatcacaa ataagaataa attatataaa acaaaaaaaaa  
 900  
 a  
 901

<210> 4446  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 4446  
 Met Leu Gln Trp Ile Thr Gln His Pro Ser Gln Gly Pro Met Pro Leu  
 1 5 10 15  
 Lys Met Asp Leu Pro Pro Gly Asp Pro Gly Val Leu Pro Leu Ser Cys  
 20 25 30  
 Pro Gln Glu Cys Pro Asp Pro His Ser Tyr Pro Gly Pro Arg Ser Pro  
 35 40 45  
 Thr Pro Gly Leu Pro Ser Ser Ala Val Asn Asp Asp Leu Leu Leu Leu  
 50 55 60  
 Pro Ser Ser Leu Pro Ser Val Thr Lys Gly Leu Pro Arg Cys Gln Leu  
 65 70 75 80  
 Trp Asn Glu Gly Cys Pro Trp Glu Val Met Ile Leu Arg Tyr Thr Gly  
 85 90 95  
 Ala Gln Gln Ile Ala Ser Ser Tyr Pro Gln Thr Val Phe Ala Cys Met  
 100 105 110  
 Gln Pro Leu Ala Leu Pro Leu Cys Gly Arg Lys Pro Ala Gln Gly His  
 115 120 125  
 Thr Ala Gly Gln Gln Gln His Ser Trp Ser Gln Ile  
 130 135 140

<210> 4447  
 <211> 951  
 <212> DNA  
 <213> Homo sapiens

<400> 4447  
 agatgtccaa agagcagcgg ctgcccaggc cttgtgcagc gggcagcgag cagcccaggg  
 60  
 agccaggccc cagacaccgc actcagggcc atggccgaca ggggcccgtg gaggggtggg  
 120  
 gtggtgggct atggccgcct cggacagtcc cttgtgtccc gccttctggc tcagggatca  
 180  
 gaactgggccc tagaacttgt ttttgtgtgg aaccgtgacc ctggacgaat ggcagggagt  
 240  
 gtgccccctg ccttcgagct cgaagacctc actacacttg aggaaaggca ccctgacctt  
 300  
 gtggttagaag tggcccatcc aaaaataatc catgaatctg gggatataat cctccgtcat  
 360  
 gcaaaccctt tgagccttcg tgtcaccatg gccacacacc ccgatggctt ccggcttgag  
 420

ggacccctgg ctgcagccca cagccctggg ccttgcaactg tgctctacga aggcctgtc  
 480  
 cgtgggctct gcccctttgc cccgcgaaat tccaacacca tggcggcggc tgccctggct  
 540  
 gccccagcc tgggcttcga tggggtgatt ggggtgctcg tggctgatac cagcctcacg  
 600  
 gacatgcacg tgggtgatgt agagctgagc ggaccccggg gccccacggg ccgaagcttt  
 660  
 gctgtgcaca cccgcagaga gaaccctgcc gagccaggcg cggtcaccgg ctccgccacc  
 720  
 gtcacggcct tctggcggag cctcctggcc tgctgccagc tcccctccag gccggggatc  
 780  
 catctctgct gagaagcctc ctccctcccg agacaagatc atctgcttgg cctctcacca  
 840  
 ccaccatccc acccctgccc tgccccactt ccccagggtc tcccttctga ctcagtaaag  
 900  
 atcacgctg cctccccccg caaaaaaaaa aaaaaaaaaa aaaaaaaaaa a  
 951

<210> 4448

<211> 263

<212> PRT

<213> Homo sapiens

<400> 4448

Arg	Cys	Pro	Lys	Ser	Gly	Cys	Pro	Gly	Leu	Val	Gln	Arg	Ala	Ala
1			5					10					15	
Ser	Ser	Pro	Gly	Ser	Gln	Ala	Pro	Asp	Thr	Ala	Leu	Arg	Ala	Met
			20					25					30	
Asp	Arg	Gly	Pro	Trp	Arg	Val	Gly	Val	Val	Gly	Tyr	Gly	Arg	Leu
		35					40					45		
Gln	Ser	Leu	Val	Ser	Arg	Leu	Leu	Ala	Gln	Gly	Ser	Glu	Leu	Gly
		50				55					60			
Glu	Leu	Val	Phe	Val	Trp	Asn	Arg	Asp	Pro	Gly	Arg	Met	Ala	Gly
65					70					75				80
Val	Pro	Pro	Ala	Leu	Gln	Leu	Glu	Asp	Leu	Thr	Thr	Leu	Glu	Glu
			85						90					95
His	Pro	Asp	Leu	Val	Val	Glu	Val	Ala	His	Pro	Lys	Ile	Ile	His
			100					105					110	
Ser	Gly	Val	Gln	Ile	Leu	Arg	His	Ala	Asn	Leu	Leu	Ser	Leu	Arg
		115					120						125	
Thr	Met	Ala	Thr	His	Pro	Asp	Gly	Phe	Arg	Leu	Glu	Gly	Pro	Leu
		130					135				140			
Ala	Ala	His	Ser	Pro	Gly	Pro	Cys	Thr	Val	Leu	Tyr	Glu	Gly	Pro
145					150					155				160
Arg	Gly	Leu	Cys	Pro	Phe	Ala	Pro	Arg	Asn	Ser	Asn	Thr	Met	Ala
			165						170					175
Ala	Ala	Leu	Ala	Ala	Pro	Ser	Leu	Gly	Phe	Asp	Gly	Val	Ile	Gly
			180					185					190	
Leu	Val	Ala	Asp	Thr	Ser	Leu	Thr	Asp	Met	His	Val	Val	Asp	Val
		195					200						205	
Leu	Ser	Gly	Pro	Arg	Gly	Pro	Thr	Gly	Arg	Ser	Phe	Ala	Val	His
		210				215						220		
Arg	Arg	Glu	Asn	Pro	Ala	Glu	Pro	Gly	Ala	Val	Thr	Gly	Ser	Ala



225		230		235		240
Val Thr Ala Phe Trp Arg Ser Leu Leu Ala Cys Cys Gln Leu Pro Ser						
		245		250		255
Arg Pro Gly Ile His Leu Cys						
	260					

&lt;210&gt; 4449

&lt;211&gt; 1365

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4449

```

ncaattgatg atatttatca ttgtgcccag tttctacaaa taaaagatgg gtggattatt
60
ttctcgatgg aggacaaaac ctccaactgt agaagttcta gaaagtatag ataaggaaat
120
tcaagcattg gaagaattta gggaaaaaaaa tcagagatta caaaaattat gggttggaag
180
attaattctg tattcctcag ttctctatct gtttacatgc ttaattgtat atttgtggta
240
tcttcctgat gaatttacag caagacttgc catgacactc ccattttttg cttttccatt
300
gatcatctgg agcataagaa cagtaattat tttcttcttt tccaagagaa cagaaagaaa
360
taatgaagca ttggatgatt taaaatccca gagggaaaaaa atacttgaag aagtcatgga
420
aaaagaaaact tacaagacgg ctaaattaat tcttgaaagg tttgatccgt actcaaagaa
480
agcaaaggag tgtgagccgc catctgctgg agcagctgta actgcaagac ctggacaaga
540
gattcgtcag cgaactgcag ctcaaagaaa cctttctcaa caccagcaag ccctaaccag
600
ggcctcctc cacaagttcc agtatctcct ggaccaccaa aggacagttc tgccctgggt
660
ggacccccag aaaggactgt tactccagcc ctatcatcaa atgtgttacc aagacatctt
720
ggatccccctg ctacttcagt gcctggaatg ggtcttcac ctcaggtcc accttagca
780
agacctatc tccccgaga acgaggtgct ttggatagaa ttgttgaata tttggttgggt
840
gatggtccac aaaacaggta tgcacttata tgcagcagt gtttttctca taatggcatg
900
gctttgaagg aagaatttga atacattgct ttcgatgtg cctactgttt tttcttgaac
960
cctgcaagaa aaaccagacc tcaggtccca agacttctg agtttagttt tgagaagagg
1020
caggtggtgg aaggttcaag ttcagttgggt cccttgccat caggaagtgt gctttcatca
1080
gacaaccagt ttaatgaaga atcttttagaa cacgatgttc ttgatgataa tacagagcag
1140
acagatgaca aaataccagc tacagaacag acaaaccaag tgattgaaaa agcatctgac
1200
tcagaggaac cagaggagaa acaagagact gagaatgagg aagcctcagt gattgaaacc
1260

```

aactccacag ttcttgagc tgattctatt cctgatcctg aactaagtgg agaattcttg  
 1320  
 acggcagagt agtaaagct tccacgtgcc ttcaactgga aaaaa  
 1365

<210> 4450  
 <211> 194  
 <212> PRT  
 <213> Homo sapiens

<400> 4450  
 Met Gly Leu His Pro Pro Gly Pro Pro Leu Ala Arg Pro Ile Leu Pro  
 1 5 10 15  
 Arg Glu Arg Gly Ala Leu Asp Arg Ile Val Glu Tyr Leu Val Gly Asp  
 20 25 30  
 Gly Pro Gln Asn Arg Tyr Ala Leu Ile Cys Gln Gln Cys Phe Ser His  
 35 40 45  
 Asn Gly Met Ala Leu Lys Glu Glu Phe Glu Tyr Ile Ala Phe Arg Cys  
 50 55 60  
 Ala Tyr Cys Phe Phe Leu Asn Pro Ala Arg Lys Thr Arg Pro Gln Ala  
 65 70 75 80  
 Pro Arg Leu Pro Glu Phe Ser Phe Glu Lys Arg Gln Val Val Glu Gly  
 85 90 95  
 Ser Ser Ser Val Gly Pro Leu Pro Ser Gly Ser Val Leu Ser Ser Asp  
 100 105 110  
 Asn Gln Phe Asn Glu Glu Ser Leu Glu His Asp Val Leu Asp Asp Asn  
 115 120 125  
 Thr Glu Gln Thr Asp Asp Lys Ile Pro Ala Thr Glu Gln Thr Asn Gln  
 130 135 140  
 Val Ile Glu Lys Ala Ser Asp Ser Glu Glu Pro Glu Glu Lys Gln Glu  
 145 150 155 160  
 Thr Glu Asn Glu Glu Ala Ser Val Ile Glu Thr Asn Ser Thr Val Pro  
 165 170 175  
 Gly Ala Asp Ser Ile Pro Asp Pro Glu Leu Ser Gly Glu Ser Leu Thr  
 180 185 190  
 Ala Glu

<210> 4451  
 <211> 1637  
 <212> DNA  
 <213> Homo sapiens

<400> 4451  
 nntcctggag gaccaggac tgaccaagtc cccggcctca gcaggcgatc atgttggcag  
 60  
 gcttggtatct tctcgctctg tgaccagcct gggccacaca ctggtggaat ctgctctcac  
 120  
 gaggccttcc ctgcccagtc cccacaggac ctcacctagg gtggaggaga gcaacagcaa  
 180  
 gctcctggag tcagagagga agctgcagga ggagcgacac cgcaccgtgg tcttggagca  
 240  
 acatctggag aagatacgcc tggagccagg gaaggcatca gcctcccaga gaggagctcc  
 300

caggaccaaa acagctccgc tectggatgt atgctgtgta cggggccttg gctgtgatgg  
360  
gcacaatggg cccttggtac ctgctgctgc tgcttggtca ctgtgtgggc ctctatgtgg  
420  
cctcgctttt gggccagccc tggctctgtc ttggccttgg cttggccagc ctggcctcct  
480  
tcaagatgga cccctaatac tcttggcaga gcggtttgt aacaggcact tttgatcttc  
540  
aagaggtgct gtttcatggg ggcagcagct tcacagtgtc gcgttgacc agctttgcac  
600  
tgagagctg tgcccaccct gaccgccact nactccttag ctgacctgct caagtacaac  
660  
ttctacctgc ccttcttctt cttcgggccc atcatgacct ttgatcgctt ccatgctcag  
720  
gtgagccagg tggagccagt gagacgcgag ggtgagctgt ggcacatccg agcccaggca  
780  
ggcctaagcg tgggtggccat catggccgtc gacatcttct ttcacttctt ctacatcctc  
840  
actatcccca gcgacctcaa gttcgccaac cgcctcccag acagtgcctt cgctggccta  
900  
gcctattcaa acctggtgta tgactgggtg aaggcggccg tcctcttttg tgttgtaaac  
960  
actgtggcat gcctcgacca cctggacca cccagcctc ccaagtgcac caccgcactc  
1020  
tacgtctttg cggaaacgca ctttgaccgt ggcatacaac actggctttg caaatatgtg  
1080  
tataaccaca ttggtgggga gcattccgct gtgatcccag agctggcagc cacagtggcc  
1140  
acatttgcca tcaccacact gtggcttggg ccttgtgaca ttgtctacct gtggtcattc  
1200  
cttaactgct ttggcctcaa ctttgagctc tggatgcaaa aactggcaga gtgggggccc  
1260  
ctagcacgaa ttgaggcctc tctgtcagtg cagatgtccc gtaggggccg ggccctgttt  
1320  
ggagccatga acttctgggc catcatcatg tacaaccttg tgagcctgaa cagcctcaaa  
1380  
ttcacagagc tgggtgcccc gcgcctgcta ctcacagggt tccccagac cacgctgtcc  
1440  
atcctgtttg tcacctactg tggcgtccag ctggtaaagg agcgtgagcg aaccttgga  
1500  
ctggaggagg agcagaagca ggacaaagag aagccggagt aggagggagc gggtagaggg  
1560  
atgggctctg ctcagctatt cttgggccag atggggcctg accgatagaa taaaagactt  
1620  
ttctacaaca aaaaaaa  
1637

&lt;210&gt; 4452

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4452

Met Gly Ala Ala Ala Ser Gln Cys Cys Val Ala Pro Ala Leu His Trp

```

      1           5           10           15
Arg Ala Val Pro Thr Leu Thr Ala Thr Xaa Ser Leu Ala Asp Leu Leu
      20           25           30
Lys Tyr Asn Phe Tyr Leu Pro Phe Phe Phe Phe Gly Pro Ile Met Thr
      35           40           45
Phe Asp Arg Phe His Ala Gln Val Ser Gln Val Glu Pro Val Arg Arg
      50           55           60
Glu Gly Glu Leu Trp His Ile Arg Ala Gln Ala Gly Leu Ser Val Val
      65           70           75           80
Ala Ile Met Ala Val Asp Ile Phe Phe His Phe Phe Tyr Ile Leu Thr
      85           90           95
Ile Pro Ser Asp Leu Lys Phe Ala Asn Arg Leu Pro Asp Ser Ala Leu
      100          105          110
Ala Gly Leu Ala Tyr Ser Asn Leu Val Tyr Asp Trp Val Lys Ala Ala
      115          120          125
Val Leu Phe Gly Val Val Asn Thr Val Ala Cys Leu Asp His Leu Asp
      130          135          140
Pro Pro Gln Pro Pro Lys Cys Ile Thr Ala Leu Tyr Val Phe Ala Glu
      145          150          155          160
Thr His Phe Asp Arg Gly Ile Asn Asp Trp Leu Cys Lys Tyr Val Tyr
      165          170          175
Asn His Ile Gly Gly Glu His Ser Ala Val Ile Pro Glu Leu Ala Ala
      180          185          190
Thr Val Ala Thr Phe Ala Ile Thr Thr Leu Trp Leu Gly Pro Cys Asp
      195          200          205
Ile Val Tyr Leu Trp Ser Phe Leu Asn Cys Phe Gly Leu Asn Phe Glu
      210          215          220
Leu Trp Met Gln Lys Leu Ala Glu Trp Gly Pro Leu Ala Arg Ile Glu
      225          230          235          240
Ala Ser Leu Ser Val Gln Met Ser Arg Arg Val Arg Ala Leu Phe Gly
      245          250          255
Ala Met Asn Phe Trp Ala Ile Ile Met Tyr Asn Leu Val Ser Leu Asn
      260          265          270
Ser Leu Lys Phe Thr Glu Leu Val Ala Arg Arg Leu Leu Thr Gly
      275          280          285
Phe Pro Gln Thr Thr Leu Ser Ile Leu Phe Val Thr Tyr Cys Gly Val
      290          295          300
Gln Leu Val Lys Glu Arg Glu Arg Thr Leu Ala Leu Glu Glu Glu Gln
      305          310          315          320
Lys Gln Asp Lys Glu Lys Pro Glu
      325

```

&lt;210&gt; 4453

&lt;211&gt; 685

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4453

```

tttttttttt tttttttttt tttttttttt tttttccagt gtggaaactt actttattcc
60
agccatgatt atcctagttg tcaccttgca cacctgccat ccggtgccat ctccctggctg
120
gcacatctat acccactctg gctctgaaag gcttgtcaac caaaaatggg cagctggggc
180

```

```
<210> 4454
<211> 207
<212> PRT
<213> Homo sapiens
```

<210> 4455  
<211> 882

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4455

nacgcgtgcc tcagtaccaa cgggctcggc agcagcccgg gcagtgccgg gcacatgaac  
 60  
 ggattaagcc acagcccggg gaaccctcgc accattccca tgaaggacca cgatgccatc  
 120  
 aagctgttca ttgggcagat cccccgcaac ctggatgaga aggacctcaa gcccctcttc  
 180  
 gaggagtttg gcaaaatcta cgagcttacg gttctgaagg acaggttcac aggcattcac  
 240  
 aaaggctgcg ccttcctcac ctactgcgag cgtgagtcag cgctgaaggc ccagagcgcg  
 300  
 ctgcacgagc agaagactct gcccgggatg aaccggccga tccaggtgaa gcctgcggac  
 360  
 agcgagagcc gaggagatag tagctgcctg cgccagcccc cttcacatag aaaactcttc  
 420  
 gtgggcatgc tcaacaagca acagtccgag gacgacgtgc gccgcctttt cgaggccttt  
 480  
 gggaacatcg aggagtgcac catcctgcgc gggcccgcgc gcaacagcaa ggggtgcgcc  
 540  
 tttgtgaagt actcctccca cgccgaggcg caggccgcca tcaacgcgct acacggcagc  
 600  
 cagaccatgc cgggagcctc gtccagtctg gtgggtcaagt tcgccgacac cgacaaggag  
 660  
 cgacgatgc ggcgaatgca gcagatggct ggccagatgg gcatgttcaa ccccatggcc  
 720  
 atccctttcg gggcctacgg cgcctacgct caggcactga tgcagcagca agcggccctg  
 780  
 atggcatcag tcgcgcaggg cggctacctg aaccccatgg ctgccttcgc tgcgcgccag  
 840  
 atgcagcaga tggcggccct caacatgaat ggcttggcgg cc  
 882

&lt;210&gt; 4456

&lt;211&gt; 261

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4456

Met	Lys	Asp	His	Asp	Ala	Ile	Lys	Leu	Phe	Ile	Gly	Gln	Ile	Pro	Arg
1				5					10					15	
Asn	Leu	Asp	Glu	Lys	Asp	Leu	Lys	Pro	Leu	Phe	Glu	Glu	Phe	Gly	Lys
			20					25					30		
Ile	Tyr	Glu	Leu	Thr	Val	Leu	Lys	Asp	Arg	Phe	Thr	Gly	Met	His	Lys
			35					40					45		
Gly	Cys	Ala	Phe	Leu	Thr	Tyr	Cys	Glu	Arg	Glu	Ser	Ala	Leu	Lys	Ala
			50					55					60		
Gln	Ser	Ala	Leu	His	Glu	Gln	Lys	Thr	Leu	Pro	Gly	Met	Asn	Arg	Pro
			65					70					75		80
Ile	Gln	Val	Lys	Pro	Ala	Asp	Ser	Glu	Ser	Arg	Gly	Asp	Ser	Ser	Cys
				85						90				95	
Leu	Arg	Gln	Pro	Pro	Ser	His	Arg	Lys	Leu	Phe	Val	Gly	Met	Leu	Asn

```
<210> 4457
<211> 1491
<212> DNA
<213> Homo sapiens
```

```

<400> 4457
nggctggcag gtgcacatca gcttaaagct gatgcaacag tcctctctct acgcatccaa
60
tgagaccatg ctgaccctct tctacgaaga cagcaaactg taccaggtgc ccggtggagc
120
tatgcgggga catcggggca cccagggagg gctgacccca gtcacctgg ccctgccttc
180
cccctgcagc tgggtgtacct tatgaacaac cagaagggcc agctggtcaa gaggctcgtg
240
cccgtggagc agcttctgat gtatcaacag cacaccagcc actatgactt ggagcggaaa
300
gggggctact tgatgctctc cttcatcgac ttctgcccct tctcggtgat gcgcctgcgg
360
agcctgcccc gtccgcagag atacacgcgc caggagcgct accgggcgcg gccgccgcgc
420
gtcctggagc gctcgggctt ccacaacgag aactcgctcg ccatctacca gggcctggtc
480
tactacctgc tgtggctgca ctccgtgtac gacaaggatt actacttctt cttggcgagc
540
aattggcgaa gcgcggggcg cgtgtccata gaaatggaca gctacgaaaa gatctacaac
600
ctcgagtccg cgtacgagct gccggagcgc attttctctg acaagggcac tgagtacagc
660
ttcgccatct tcctgtcggc gcagggccac tcgttccgga cgcagtcaga actcgggtctg
720
cgcgggacca gagtggagcc cgaagggcgg ggcgagggct accagaatct gggagcctgg
780

```

ggggcgggga caccatcgga ggggcggggc ctgtctgtgg acgtgggcgt ggtgctggcc  
 840  
 gaccccggtc gcacgcaggc ctcggtgaag caggaggtcc tgattaatcg caactcggtg  
 900  
 ctattttcga ttacgctcaa ggataaaaag ctttgctatg accaaggcat tagtggacat  
 960  
 caccttatgg agacttccat gacggtcaat gtgaggtcca agcctggagg ggagggcaag  
 1020  
 cgcttggcct tcgacatcac ctacacgctg gaatacagcc gcctgaagaa caaacactac  
 1080  
 tttgactgcg ttaacgtgaa cccggagatg ccttgctttc tcttcggga cagtgtctat  
 1140  
 gttctgctgg tgggtgggtg cgggccaca ctggacagcc tcaaggacta cagtgaggac  
 1200  
 gaaatctacc gttcaacag cccctggac aagaccaaca gccttatctg gaccacgagg  
 1260  
 accacaagga ccaccaaaga ctacgcttt cactcatgt cccacgagag cccaggcatc  
 1320  
 gagtggctct gtctggagaa tgcccatgc tatgacaatg ttccccaagg catctttgcc  
 1380  
 cctgaattct tcttcaaggt gttggtgagc aataggtgag ccaggcaagt ggcccaggtg  
 1440  
 cgggtcaggg gctgccatg gaatgcctgg cttctctct aatcctggat c  
 1491

&lt;210&gt; 4458

&lt;211&gt; 405

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4458

Met	Asn	Asn	Gln	Lys	Gly	Gln	Leu	Val	Lys	Arg	Leu	Val	Pro	Val	Glu
1				5					10				15		
Gln	Leu	Leu	Met	Tyr	Gln	Gln	His	Thr	Ser	His	Tyr	Asp	Leu	Glu	Arg
			20					25				30			
Lys	Gly	Gly	Tyr	Leu	Met	Leu	Ser	Phe	Ile	Asp	Phe	Cys	Pro	Phe	Ser
		35				40					45				
Val	Met	Arg	Leu	Arg	Ser	Leu	Pro	Ser	Pro	Gln	Arg	Tyr	Thr	Arg	Gln
	50					55					60				
Glu	Arg	Tyr	Arg	Ala	Arg	Pro	Pro	Arg	Val	Leu	Glu	Arg	Ser	Gly	Phe
65				70					75					80	
His	Asn	Glu	Asn	Ser	Leu	Ala	Ile	Tyr	Gln	Gly	Leu	Val	Tyr	Tyr	Leu
			85					90					95		
Leu	Trp	Leu	His	Ser	Val	Tyr	Asp	Lys	Asp	Tyr	Tyr	Phe	Phe	Leu	Ala
			100					105				110			
Ser	Asn	Trp	Arg	Ser	Ala	Gly	Gly	Val	Ser	Ile	Glu	Met	Asp	Ser	Tyr
		115				120					125				
Glu	Lys	Ile	Tyr	Asn	Leu	Glu	Ser	Ala	Tyr	Glu	Leu	Pro	Glu	Arg	Ile
	130					135				140					
Phe	Leu	Asp	Lys	Gly	Thr	Glu	Tyr	Ser	Phe	Ala	Ile	Phe	Leu	Ser	Ala
145				150					155					160	
Gln	Gly	His	Ser	Phe	Arg	Thr	Gln	Ser	Glu	Leu	Gly	Leu	Arg	Gly	Thr
			165					170					175		
Arg	Val	Glu	Pro	Glu	Gly	Arg	Gly	Glu	Gly	Tyr	Gln	Asn	Leu	Gly	Ala



```
<210> 4459
<211> 1114
<212> DNA
<213> Homo sapiens
```

```
<400> 4459
cgggggccacg ctgttccaca ggcacgctga gcggcttgaa gacccttccc agctccagag
60
aaggcaacac cgaggggaggc ccagcaccac agtccatggc agacacatgg ttcagacttg
120
gccgattgat ctaagaaact ttattgctca gaaccttccc tccctgggca atggaaagag
180
ctttggagac cagcccatgg ggacagagtc agaggcactg ggtgtaaaaa aagagcgagc
240
gtgtggcaca tttggtccat tgtcatgtgt gggatatggca ggaggagggg gtaatctaga
300
agccccacat ctagggcctt ctagggaccc agatatgcc ccttaggcaa ggctcacatg
360
ccaaagcaaa gcagatgagg tcagcctggc ttggggtgag ggctcagtgc ctcttagcct
420
tgccctgggg ttcttggacc ttccgaaac tgagccacat caggctcacg ttgatagcat
480
aggtggtgat acaaacaatg cagaaatcat agagcacgaa gaacaggatc caggccaggt
540
```

agacagaacc agcgagagac accaggggagc tcagcagcat caggacagag gccagcgtg  
 600  
 tccgcaggca acctaacaat agctgtagtg tgtagaagat gcaaccgaat atgctgttgg  
 660  
 attgattgag gatgctgtcc tgtcccagca catgctccac cagcccgaaa cccctgcccc  
 720  
 acctggagga gaagacgcgc gaacagctga tggcgggtgcc cacgtcgcag agcgcgcggg  
 780  
 aatccccggtc ccgggcgcgcc gccgccttca cgtgcagcgc gtagagcgag agcactaagc  
 840  
 ccgtcaggca aagagcgagc cgcaccagc caggggtccc ccagggtgctg cccattatct  
 900  
 ccaggttccg cccgaggcgc ccgcggagaa aaccagccac ggagcagggg ccgggcgggc  
 960  
 aatggccgcg cccctcctgg ccctctgact cggcgattgg ccggccgtgc tcgcactcca  
 1020  
 cgacccaaat ggctgttcca gggcgctagt caagcgggcg agttaggaaa acagcgaaga  
 1080  
 atgccgggac tagtgaagcg ggtaagggac gtgc  
 1114

<210> 4460

<211> 121

<212> PRT

<213> Homo sapiens

<400> 4460

Trp	Arg	Cys	Pro	Arg	Arg	Arg	Ala	Arg	Gly	Asn	Pro	Gly	Pro	Gly	Arg
1				5					10					15	
Ala	Pro	Pro	Ser	Arg	Ala	Ala	Arg	Arg	Ala	Arg	Ala	Leu	Ser	Pro	Ser
			20					25					30		
Gly	Lys	Glu	Arg	Ala	Ala	Pro	Ser	Gln	Gly	Ser	Pro	Arg	Cys	Cys	Pro
		35				40					45				
Leu	Ser	Pro	Gly	Ser	Ala	Arg	Gly	Ala	Arg	Gly	Glu	Asn	Gln	Pro	Arg
	50					55					60				
Ser	Arg	Gly	Arg	Ala	Ala	Asn	Gly	Arg	Ala	Pro	Pro	Gly	Pro	Leu	Thr
65				70					75					80	
Arg	Arg	Leu	Ala	Gly	Arg	Ala	Arg	Thr	Pro	Arg	Pro	Lys	Trp	Leu	Phe
			85					90						95	
Gln	Gly	Ala	Ser	Gln	Ala	Gly	Glu	Leu	Gly	Lys	Gln	Arg	Arg	Met	Pro
			100					105						110	
Gly	Leu	Val	Lys	Arg	Val	Arg	Asp	Val							
		115					120								

<210> 4461

<211> 488

<212> DNA

<213> Homo sapiens

<400> 4461

acagagtcct acaccagcac tgcaatggcc cccaagggca tcttctgtaa cccgtacaac  
 60  
 aatctgatct tcattctgggg caacttcctc ctgcagagct ctaacaagga aaacttcac  
 120

tacctggcag acttcccca ggaactgtcc atcaaataca tggccagatc gttccgtggg  
 180  
 gctgtggcta ttgtcacaga gacggaggag gtgggctgcc ccgcccttct cccattccc  
 240  
 tctctgcca cccccaacc ccagggggccc ctctttcccc cgtcacagta aaggagccaa  
 300  
 gggaaggggg caccctcggg gaccctgaga aagggcagtg aagctccatt tataactgaa  
 360  
 actcctggaa ctcagggtaa gtgtcagctc caaagtcacg cagaccggag ctatgatccg  
 420  
 atgttcagag gcggccctct ttcattccac agtgtggtcg ttcacttcat aaatattgag  
 480  
 catttaaa  
 488

&lt;210&gt; 4462

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4462

Thr	Glu	Ser	Tyr	Thr	Ser	Thr	Ala	Met	Ala	Pro	Lys	Gly	Ile	Phe	Cys
1				5					10					15	
Asn	Pro	Tyr	Asn	Asn	Leu	Ile	Phe	Ile	Trp	Gly	Asn	Phe	Leu	Leu	Gln
			20				25						30		
Ser	Ser	Asn	Lys	Glu	Asn	Phe	Ile	Tyr	Leu	Ala	Asp	Phe	Pro	Lys	Glu
		35				40					45				
Leu	Ser	Ile	Lys	Tyr	Met	Ala	Arg	Ser	Phe	Arg	Gly	Ala	Val	Ala	Ile
	50				55					60					
Val	Thr	Glu	Thr	Glu	Glu	Val	Gly	Cys	Pro	Ala	Leu	Leu	Pro	Ile	Pro
65				70				75					80		
Ser	Leu	Pro	Thr	Pro	Lys	Pro	Gln	Gly	Pro	Leu	Phe	Pro	Pro	Ser	Gln
				85				90					95		

&lt;210&gt; 4463

&lt;211&gt; 2662

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4463

nnccacctcc ctctcatggc tagtaggaga gactggtgct tgccccgcc ggtggactaa  
 60  
 ctcgcttaat tttaaataaa aagtcgagga cacggcggtc gttttcccga agacatgggc  
 120  
 cctcccatgg gccatttgtc ccttgaggc cctcgcgtct tgctgagccc ggggagttag  
 180  
 gatgacgca gcggtgaggg aaccgggaac aattccttca cagaacaatt gaggcgaggc  
 240  
 ctttgggagt actttgtggg acggaccctg gcgggccctg ccagacgcac agggatggcg  
 300  
 gcggaggcgg ccgatttggg gctgggggcc gccgtccccg tggagctgag gcgggagcga  
 360  
 cgcattggtg gcgtggagta cccgggagtg gtgcgtgatg tggctaagat gctgccgact  
 420

ctgggcggtg aggaaggcgt ctcccggatc tacgcagacc ccaccaagag gctggagctg  
480  
tacttccggc ccaaggaccc atactgccac ccagtgtgcg ccaaccgctt cagtaccagc  
540  
agcctgctgc tccgcatcag gaagagaacg aggcggcaga aaggggtgct gggcactgag  
600  
gccactccg aggtcacatt tgacatggag atccttggca tcctctccac catttacaaa  
660  
tttcagggga tgtctgactt ccagtacttg gctgtgcata cggaagcagg cggcaagcat  
720  
acgtcaatgt atgacaagg tctcatgctc cggcccgaga aggaggcctt tttccaccag  
780  
gagctgccgc tctacatccc cccacccatc ttctcccggc tggacgcccc ggtggactac  
840  
ttctaccgac cagagaccca gcaccgggaa ggctacaaca atccccccat ctcagggtgag  
900  
aatctgattg gcctgagcag agcccggcgc ccccaaatg ccatctttgt caactttgag  
960  
gatgaggagg tgcccaagca gccactggag gctgcagccc agacgtggag gagagtctgc  
1020  
actaaccg tggaccggaa ggtggaggag gagctgagga agctgtttga catccgtccc  
1080  
atctggtccc gaaatgctgt caaggccaac atcagcgtcc acccagacaa gctcaaggtc  
1140  
ttgcttcct tcatagccta ttacatgata acaggccctt ggcgagcct atggattcga  
1200  
tttgggtatg acccccgaaa aaaccagat gccaaagatt atcaagtcct cgatttcga  
1260  
atccgttgtg gaatgaaaca cggttacgcc ccagtgact tgccggtcaa agcaaagcgc  
1320  
agcacctaca actacagcct ccccatcacc gtcaagaaga catccagcca gcttgtcacc  
1380  
atgcatgacc tgaagcaggg cctgggcccg tcggggacga gtggtgctcg gaaaccagct  
1440  
tccagcaagt acaagctcaa ggactctgtc tacatcttcc gggaaggggc cttgccaccc  
1500  
tatcggcaga tggtctacca gttatgcgac ttgaatgtgg aagagttgca gaagatcatt  
1560  
caccgcaatg acggggcaga gaattcctgc acagaacggg atgggtggtg cctccccaag  
1620  
accagcgacg agctcagggg caccatgtcc ctcatgatcc ggcagaccat ccgctccaag  
1680  
aggcctgctc tcttttccag ctcagccaag gctgatggcg gaaaagagca gctgacgtac  
1740  
gagtctgggg aagacgagga ggatgaggag gaggaggaag aggaggagga ggacttcaag  
1800  
ccatccgacg gcagtgaaaa cgaaatggag acagagattc tggactacgt gtgacagggc  
1860  
ccaaggctgg gcctccctga cccggccaga ctggtgtctg gcctaagtag ggagccgggg  
1920  
ctcccattg ccaccacag tgcccgaat ggccctagga ggccctctga ggagagctag  
1980  
agtcccagca aaggggtgcag ctgaccctag cactggctgt gacatgctgc ttggtgctgc  
2040

ctctggctct gagggggttag ggacatcccc aaagggtata ccctggctct gccacccatg  
 2100  
 aaccagccca gcatccagcc agtgagtggg cacccaatgc ctctcaggat gagaccagta  
 2160  
 aatgccggag gtggagctgg gcagctgtgg agccccaggc cacaggccag tctcgcttgg  
 2220  
 ctctcatgac tgtggtggtg gagatagcgt ggggagcctc gcccatggtc tcacgtggca  
 2280  
 agaagtgcct ttagctctgg atcccaaccg tttggcacag ctttggccac agccaggccc  
 2340  
 ctctggaatt gtccttatta aaccagtttc ccgagaagtc ttggtttctt ggtgtgaatg  
 2400  
 ttggcgctgc aggggagtct tcttattgcc ttggggcttg ggcccccttt gtcccttcat  
 2460  
 atattccttc attcattcct tcattcattc agtgacatgc tggcagtgc ggccgtgtgc  
 2520  
 cccctcacat gtggtcgggt tgggtgaggg cagctaggaa gactccaggg gctgggtcag  
 2580  
 ttcttctcta aatgaatacc cttctgacga agtcatggga gacggggcct gctgtcctgt  
 2640  
 gggctgccag tgtgaaacta gt  
 2662

&lt;210&gt; 4464

&lt;211&gt; 519

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4464

Met	Ala	Ala	Glu	Ala	Ala	Asp	Leu	Gly	Leu	Gly	Ala	Ala	Val	Pro	Val
1				5					10					15	
Glu	Leu	Arg	Arg	Glu	Arg	Arg	Met	Val	Cys	Val	Glu	Tyr	Pro	Gly	Val
		20						25					30		
Val	Arg	Asp	Val	Ala	Lys	Met	Leu	Pro	Thr	Leu	Gly	Gly	Glu	Glu	Gly
		35				40					45				
Val	Ser	Arg	Ile	Tyr	Ala	Asp	Pro	Thr	Lys	Arg	Leu	Glu	Leu	Tyr	Phe
	50					55				60					
Arg	Pro	Lys	Asp	Pro	Tyr	Cys	His	Pro	Val	Cys	Ala	Asn	Arg	Phe	Ser
65				70					75					80	
Thr	Ser	Ser	Leu	Leu	Leu	Arg	Ile	Arg	Lys	Arg	Thr	Arg	Arg	Gln	Lys
			85					90						95	
Gly	Val	Leu	Gly	Thr	Glu	Ala	His	Ser	Glu	Val	Thr	Phe	Asp	Met	Glu
		100						105					110		
Ile	Leu	Gly	Ile	Ile	Ser	Thr	Ile	Tyr	Lys	Phe	Gln	Gly	Met	Ser	Asp
	115					120						125			
Phe	Gln	Tyr	Leu	Ala	Val	His	Thr	Glu	Ala	Gly	Gly	Lys	His	Thr	Ser
	130					135				140					
Met	Tyr	Asp	Lys	Val	Leu	Met	Leu	Arg	Pro	Glu	Lys	Glu	Ala	Phe	Phe
145				150					155					160	
His	Gln	Glu	Leu	Pro	Leu	Tyr	Ile	Pro	Pro	Ile	Phe	Ser	Arg	Leu	
			165					170					175		
Asp	Ala	Pro	Val	Asp	Tyr	Phe	Tyr	Arg	Pro	Glu	Thr	Gln	His	Arg	Glu
		180						185				190			
Gly	Tyr	Asn	Asn	Pro	Pro	Ile	Ser	Gly	Glu	Asn	Leu	Ile	Gly	Leu	Ser

195	200	205
Arg Ala Arg Arg Pro His Asn Ala Ile Phe Val Asn Phe Glu Asp Glu		
210	215	220
Glu Val Pro Lys Gln Pro Leu Glu Ala Ala Ala Gln Thr Trp Arg Arg		
225	230	235
Val Cys Thr Asn Pro Val Asp Arg Lys Val Glu Glu Glu Leu Arg Lys		
245	250	255
Leu Phe Asp Ile Arg Pro Ile Trp Ser Arg Asn Ala Val Lys Ala Asn		
260	265	270
Ile Ser Val His Pro Asp Lys Leu Lys Val Leu Leu Pro Phe Ile Ala		
275	280	285
Tyr Tyr Met Ile Thr Gly Pro Trp Arg Ser Leu Trp Ile Arg Phe Gly		
290	295	300
Tyr Asp Pro Arg Lys Asn Pro Asp Ala Lys Ile Tyr Gln Val Leu Asp		
305	310	315
Phe Arg Ile Arg Cys Gly Met Lys His Gly Tyr Ala Pro Ser Asp Leu		
325	330	335
Pro Val Lys Ala Lys Arg Ser Thr Tyr Asn Tyr Ser Leu Pro Ile Thr		
340	345	350
Val Lys Lys Thr Ser Ser Gln Leu Val Thr Met His Asp Leu Lys Gln		
355	360	365
Gly Leu Gly Arg Ser Gly Thr Ser Gly Ala Arg Lys Pro Ala Ser Ser		
370	375	380
Lys Tyr Lys Leu Lys Asp Ser Val Tyr Ile Phe Arg Glu Gly Ala Leu		
385	390	395
Pro Pro Tyr Arg Gln Met Phe Tyr Gln Leu Cys Asp Leu Asn Val Glu		
405	410	415
Glu Leu Gln Lys Ile Ile His Arg Asn Asp Gly Ala Glu Asn Ser Cys		
420	425	430
Thr Glu Arg Asp Gly Trp Cys Leu Pro Lys Thr Ser Asp Glu Leu Arg		
435	440	445
Asp Thr Met Ser Leu Met Ile Arg Gln Thr Ile Arg Ser Lys Arg Pro		
450	455	460
Ala Leu Phe Ser Ser Ser Ala Lys Ala Asp Gly Gly Lys Glu Gln Leu		
465	470	475
Thr Tyr Glu Ser Gly Glu Asp Glu Glu Asp Glu Glu Glu Glu Glu Glu		
485	490	495
Glu Glu Glu Asp Phe Lys Pro Ser Asp Gly Ser Glu Asn Glu Met Glu		
500	505	510
Thr Glu Ile Leu Asp Tyr Val		
515		

&lt;210&gt; 4465

&lt;211&gt; 1291

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4465

gggctggagc gccaggttcg ggccgagatc gagcacaaga aggaggagct gcggcagatg  
60

gtggggcgaac ggtaccgcga cctgatcgag gcgnccgaca ccatcggcca gatgcgccgt  
120

ngcgccgtgg ggctagtggg cgccgtgaag gccaccgacc agtactgcgc ccgcctccgc  
180

caggccggct cggccgcgcc ccggccaccg cgggcccagc agccacagca gccatcccaa  
 240  
 gagaagttct acagcatggc tgccagatca agctactctt agaaattccg gagaagatct  
 300  
 ggagctcgat ggaagcctct cagtgtctcc acgccacacn agctctacct gctctgctgc  
 360  
 cacctccaca gcctgtcca gctggattct tctagttccc gatacagtec cgctctctcc  
 420  
 cggtttecta tactcatccg gcaggtggcg gccgccagcc acttccggtc aactattctg  
 480  
 catgaaagca agatgttgct caaatgccaa ggtgtgtctg accaagctgt ggccgaggcc  
 540  
 ctgtgtctta taatgtcttt agaagagagt tctctctgcc aagccctcac agacttcttg  
 600  
 ctggccagaa aggcaactat tcagaaactt ctcaaccagc cacaccatgg tgctggatc  
 660  
 aaggctcaga tttgtctatt agtggagttg ctggccacca ctctgaagca agctcatgcc  
 720  
 cttttctaca ctttgccaga aggactgctg ccagatccag ccttgccatg tggcttgctc  
 780  
 ttctctactc tggagaccat cacaggccag catcctgccg gaaagggcac tgggtgtcctg  
 840  
 caggaagaga tgaaactctg cagctggttt aaacacctgc cagcatccat cgtcgagttc  
 900  
 cagccaacac tccgaaccct tgcacatccc atcagtcagg aataacctgaa agacacgctg  
 960  
 cagaaatgga tccacatgtg taatgaagac attaaaaatg ggatcaccaa cctgctcatg  
 1020  
 tacgtgaaga gcatgaaggg tctcgcggga atccgggacg ccatgtggga gttacttacc  
 1080  
 agtgagtcca ccaatcacag ctgggatgtg ctatgtaccc gcnttctgga gaagccgctc  
 1140  
 ttgttctggg aagatatgat gcagcaactg ttccttgacc gattacagac tctgacaaaa  
 1200  
 gaaggctttg actccatctc cagtagtncc aaggagctct tggtttcang tttgcaggaa  
 1260  
 cttgaaagca gcaccagcaa ctcccacttc a  
 1291

&lt;210&gt; 4466

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4466

Gly	Leu	Glu	Arg	Gln	Val	Arg	Ala	Glu	Ile	Glu	His	Lys	Lys	Glu	Glu
1				5				10						15	
Leu	Arg	Gln	Met	Val	Gly	Glu	Arg	Tyr	Arg	Asp	Leu	Ile	Glu	Ala	Xaa
			20					25					30		
Asp	Thr	Ile	Gly	Gln	Met	Arg	Arg	Xaa	Ala	Val	Gly	Leu	Val	Asp	Ala
		35					40					45			
Val	Lys	Ala	Thr	Asp	Gln	Tyr	Cys	Ala	Arg	Leu	Arg	Gln	Ala	Gly	Ser
	50					55					60				
Ala	Ala	Pro	Arg	Pro	Pro	Arg	Ala	Gln	Gln	Pro	Gln	Gln	Pro	Ser	Gln

65		70		75	80							
Glu	Lys	Phe	Tyr	Ser	Met	Ala	Ala	Arg	Ser	Ser	Tyr	Ser
				85				90				

<210> 4467  
 <211> 1142  
 <212> DNA  
 <213> Homo sapiens

<400> 4467  
 nnagatgtcc ctaaggtaga ggtggttgaa cgggagctgg cctggctgaa ggagcatctg  
 60  
 tcccagctgg agtccctgt ggtgttttgt cacaatgacc tgctctgcaa gaatatcatc  
 120  
 tatgacagca tcaaaggtea cgtgcggttc attgactatg aatatgctgg ctacaactac  
 180  
 caagcttttg acattggcaa ccatttcaat gagtttgag gcgtgaatga ggtggattac  
 240  
 tgcctgtacc cggcgcgagg gacccagctg cagtggctgc actactacct gcaggcacia  
 300  
 aaggggatgg ccgtgacccc caggaggtg caaaggctct acgtgcaagt caacaagttt  
 360  
 gccctggcgt ctcaattctt ctgggtcttc tgggccctca tccagaacca gtactccacc  
 420  
 atcgactttg atttcctcag gtacgcagtg atccgattca accagtactt caagggtgaag  
 480  
 cctcaagcgt cagccttgga gatgcaaag tgaccagcca ccccatcctt cccctaccca  
 540  
 tctgtctggc cagacctgtt ctccagagct caattctgca ctctgggata cacacccttg  
 600  
 gacaggggtg gagaggggac acatgggtgt ccaggagaga ggctctgtcc ctgccgccag  
 660  
 accccagtgg ttgccactga agacctcatt ctctgtctg gaggggctga taggaccccc  
 720  
 ttccgggggt ccccttcacc ccaccaggct tgggaggaag tgccctgcagc caggctctga  
 780  
 accataacca cccctgggaa acacatcatt cccagcctca ggccctgctg gaattggggc  
 840  
 tgccttatat gtgtgtttac cccttcctgg cctggggaag gaggcgggga gggctccttt  
 900  
 ctacctccag tgccctgagc ctccagtcg tctccccctg catgccccat gtgggaggtg  
 960  
 ctgagctcca aaccagcatc acaccaactc tgacacatgg atgtacctat cttggtgatg  
 1020  
 ggtgggggac aagaattgag catgacatct tccccagcag ccacctctc tgagatccct  
 1080  
 caccttctcc aaaccagatc caatcaaacc tcagcccag gaaacatgct cccctcacgc  
 1140  
 gt  
 1142

<210> 4468  
 <211> 170  
 <212> PRT



&lt;213&gt; Homo sapiens

&lt;400&gt; 4468

Xaa Asp Val Pro Lys Val Glu Val Leu Glu Arg Glu Leu Ala Trp Leu  
 1 5 10 15  
 Lys Glu His Leu Ser Gln Leu Glu Ser Pro Val Val Phe Cys His Asn  
 20 25 30  
 Asp Leu Leu Cys Lys Asn Ile Ile Tyr Asp Ser Ile Lys Gly His Val  
 35 40 45  
 Arg Phe Ile Asp Tyr Glu Tyr Ala Gly Tyr Asn Tyr Gln Ala Phe Asp  
 50 55 60  
 Ile Gly Asn His Phe Asn Glu Phe Ala Gly Val Asn Glu Val Asp Tyr  
 65 70 75 80  
 Cys Leu Tyr Pro Ala Arg Glu Thr Gln Leu Gln Trp Leu His Tyr Tyr  
 85 90 95  
 Leu Gln Ala Gln Lys Gly Met Ala Val Thr Pro Arg Glu Val Gln Arg  
 100 105 110  
 Leu Tyr Val Gln Val Asn Lys Phe Ala Leu Ala Ser His Phe Phe Trp  
 115 120 125  
 Ala Leu Trp Ala Leu Ile Gln Asn Gln Tyr Ser Thr Ile Asp Phe Asp  
 130 135 140  
 Phe Leu Arg Tyr Ala Val Ile Arg Phe Asn Gln Tyr Phe Lys Val Lys  
 145 150 155 160  
 Pro Gln Ala Ser Ala Leu Glu Met Pro Lys  
 165 170

&lt;210&gt; 4469

&lt;211&gt; 409

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4469

atctatgatg cacaacatgc caatttggct ggcacgctga gcggccatgc ctctctgggtg  
 60  
 ctgaacgttg cattctgtcc tgatgacact cactttgttt ccagatccca gtgttggtca  
 120  
 ggcctgggat ggccaagaca gttggaaagc aggagatgga caacttgaag gcattgcaca  
 180  
 gtgctttaga ggctctctgc gagccttggt tttgaagctt taacaggcct ccctcccatc  
 240  
 tggaaatagg tagctgtgtc tgagactcct ggagaacaat taatatgagg gccaggcaga  
 300  
 tcacaatttc aggaaaatgg ctaccctgtg aggagagaaa gccaccaat gatgctgata  
 360  
 cctggccatt tcctgtaccg aggcattgng ttgggggggtc tgaagttag  
 409

&lt;210&gt; 4470

&lt;211&gt; 55

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4470

Ile Tyr Asp Ala Gln His Ala Asn Leu Ala Gly Thr Leu Ser Gly His

1	5	10	15
Ala Ser Trp	Val Leu Asn Val	Ala Phe Cys Pro	Asp Asp Thr His Phe
	20	25	30
Val Ser Arg	Ser Gln Cys Trp	Ser Gly Leu Gly	Trp Pro Arg Gln Leu
	35	40	45
Glu Ser Arg	Arg Trp Thr Thr		
50	55		

&lt;210&gt; 4471

&lt;211&gt; 1771

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4471

```

ctgggcccc atcaccacgc tgtgctcccc acaccgcaa ggctccccct cctcagcctt
60
agtttcctct tctggaaatt ggggaatctt catgtcacct tcttgacagc atttgccagg
120
catccagcag gcgcttaata aatggccaag tcattgtttg ggtttctaaa taaggctctc
180
ctaattggccg ggtctggcca cggctcccagt gtccctgggc agccctccga ggggcccggca
240
cagggcgcac tataaatgag cggctgcgca cgcaggggca ctgcaacgcg gaggagcagg
300
atggagatcc ctgtgcctgt gcagccgtct tggctgcgcc gcgcctcggc cccgttgccc
360
ggactttcgg cgcccggacg cctctttgac cagcgcttcg gcgaggggct gctggaggcc
420
gagctggctg cgctctgccc caccacgctc gccccctact acctgcgcgc acccagcgtg
480
gcgctgcccc tcgcccaggt gccgacggac cccggccact tttegggtgt gctagacgtg
540
aagcacttct cgccggagga aattgctgtc aagggtggtgg gcgaacacgt ggaggtgcac
600
gcgcgccacg aggagcgccc ggatgagcac ggattcgctg cgcgcgagtt ccaccgtcgc
660
taccgcctgc cgctggcgt ggatccggct gccgtgacgt ccgcgctgtc ccccgagggc
720
gtcctgtcca tccaggccgc accagcgtcg gcccaggccc caccgccagc cgcagccaag
780
taggaggggg ctgggccgcg cccgcacccc gggagcctcc tcaggctccc tctattaaag
840
ccgatctgac tccgcccagc cagatgtccc gagtgcgcca aggactgtcc tctcaccac
900
tcctggattc tgccctgacc tccatcctgg aactgcctt gataacatag acccttccac
960
tgacaccctc gctctcacac cccctccagc tttecgaccc cacaccgaca actccccggc
1020
ttccagaccc taccagcact accctaaccc tcagccgaca gtctcagccc caccgaccca
1080
ctttcttggc atatagcccc acttaagacc cctcctctac ttccttctga gtcctctaca
1140
aagacatccg ggtactacat ttccatccct tccctatttt gacaccaa at tatggtgtag
1200

```

acagccctcc cccaacccca ggccagtcag gcacaatccc cccacccccc aaacgtcctg  
 1260  
 gactgcacag acctcccact ccagaccatc caggcctggg tcccaagacc cgatccttcc  
 1320  
 cctgcaacca gacagtctac aactgcccc tccagcccat tttctgccgt gaaacccag  
 1380  
 ccagccacac cagactctgg aacccttttt cgactgcccc aactcttgga caccaggcca  
 1440  
 actagaacac ccaacaccaa actgtacaga ctctcccacc ccaacctccc cagactctgc  
 1500  
 acggatgtcc taggccccct ccccaactct aaccagaccc catcccccta agtcctttg  
 1560  
 tcttgacccc caagtcttca accagatata ctcggaacc cacctcccac cctcctctc  
 1620  
 ttctccttca agacccaact gagcaccgc tctgattccc cacagccttt ctccttgcca  
 1680  
 ccactccctt agtctttccc aggcttactc tccaataaa tgtgctagag ctctgcaaaa  
 1740  
 aaaagaaaaa aaagtcgacg cggccggaat t  
 1771

&lt;210&gt; 4472

&lt;211&gt; 160

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4472

Met	Glu	Ile	Pro	Val	Pro	Val	Gln	Pro	Ser	Trp	Leu	Arg	Arg	Ala	Ser
1				5					10					15	
Ala	Pro	Leu	Pro	Gly	Leu	Ser	Ala	Pro	Gly	Arg	Leu	Phe	Asp	Gln	Arg
			20					25					30		
Phe	Gly	Glu	Gly	Leu	Leu	Glu	Ala	Glu	Leu	Ala	Ala	Leu	Cys	Pro	Thr
		35					40					45			
Thr	Leu	Ala	Pro	Tyr	Tyr	Leu	Arg	Ala	Pro	Ser	Val	Ala	Leu	Pro	Val
	50					55					60				
Ala	Gln	Val	Pro	Thr	Asp	Pro	Gly	His	Phe	Ser	Val	Leu	Leu	Asp	Val
65					70				75					80	
Lys	His	Phe	Ser	Pro	Glu	Glu	Ile	Ala	Val	Lys	Val	Val	Gly	Glu	His
			85						90				95		
Val	Glu	Val	His	Ala	Arg	His	Glu	Glu	Arg	Pro	Asp	Glu	His	Gly	Phe
		100						105				110			
Val	Ala	Arg	Glu	Phe	His	Arg	Arg	Tyr	Arg	Leu	Pro	Pro	Gly	Val	Asp
	115					120					125				
Pro	Ala	Ala	Val	Thr	Ser	Ala	Leu	Ser	Pro	Glu	Gly	Val	Leu	Ser	Ile
	130					135				140					
Gln	Ala	Ala	Pro	Ala	Ser	Ala	Gln	Ala	Pro	Pro	Pro	Ala	Ala	Ala	Lys
145					150				155						160

&lt;210&gt; 4473

&lt;211&gt; 1255

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4473

gccggcgcgga tgccccgccc cttcgatagc tcattctttgc gcgccgcagt cgcgcggagc  
 60  
 ccggcttccg acgtgcagcc tggcagtgca gtgagctgtc tggccttttg tccttgatcc  
 120  
 ttggttaagg aaatgaccaa ccagtacggg attctcttca aacaagagca agcccatgat  
 180  
 gatgccattt ggtcagttgc ttggggggaca aacaagaagg aaaactctga gacagtgggc  
 240  
 acaggctccc tagatgacct ggtgaagggtc tggaaatggc gtgatgagag gctggacctc  
 300  
 cagtggagtc tggaggggaca tcagctggga gtggtgtctg tggacatcag ccacaccctt  
 360  
 cccattgctg cctccagttc tctagatgct catattcgac tctgggactt ggaaaatggc  
 420  
 aaacagatga agtctataga tgcaggaccg gtggatgcct ggactttggc attctctccg  
 480  
 gactcccagc atctggcaac aggaactcac atgggggaaag tgaacatttt tgggtgtggaa  
 540  
 agtggaaaaa aagaatactc tttggacact agaggaaaat tcattccttag tattgcatat  
 600  
 agtcctgatg gaaaatacct ggccagcgga gccatagatg gaatcatcaa ttttttggat  
 660  
 attgcaactg gaaaacttct gcataccctg gaaggccatg ccatgcccatt tcgctccttg  
 720  
 accttttccc cggactccca gtccttctgc actgcttcag atgatggcta catcaagatc  
 780  
 tatgatgtac aacatgccaa tttggctggc acgctgagcg gccatgcctc ctgggtgctg  
 840  
 aacgttgcat tctgtcctga tgacactcac tttgtttcca gtctgtctga caaaagtgtg  
 900  
 aaagtttggg atgttggaac gaggacttgt gttcacacct tctttgatca ccaggatcag  
 960  
 gtctggggag taaaatacaa tggaaatggt tcaaaaattg tgtctgttgg agatgaccag  
 1020  
 gaaattcaca tctatgattg tccaatttaa acatcaaagt ctccaggctt atgctgcaaa  
 1080  
 gagaatgtac ggattgatca tgacattcct taccttctta ggcttgttta aaagaaatat  
 1140  
 agcattttatt gtagcaaaga cttaaatttt gtagatacaa tatgaatctt ttcattgttt  
 1200  
 attggaaatg ctgttcatac tttaacataa agctttctta atgcaaaaaa aaaaa  
 1255

&lt;210&gt; 4474

&lt;211&gt; 305

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4474

Met	Thr	Asn	Gln	Tyr	Gly	Ile	Leu	Phe	Lys	Gln	Glu	Gln	Ala	His	Asp
1					5				10					15	
Asp	Ala	Ile	Trp	Ser	Val	Ala	Trp	Gly	Thr	Asn	Lys	Lys	Glu	Asn	Ser
			20					25					30		
Glu	Thr	Val	Val	Thr	Gly	Ser	Leu	Asp	Asp	Leu	Val	Lys	Val	Trp	Lys

35 40 45  
 Trp Arg Asp Glu Arg Leu Asp Leu Gln Trp Ser Leu Glu Gly His Gln  
 50 55 60  
 Leu Gly Val Val Ser Val Asp Ile Ser His Thr Leu Pro Ile Ala Ala  
 65 70 75 80  
 Ser Ser Ser Leu Asp Ala His Ile Arg Leu Trp Asp Leu Glu Asn Gly  
 85 90 95  
 Lys Gln Met Lys Ser Ile Asp Ala Gly Pro Val Asp Ala Trp Thr Leu  
 100 105 110  
 Ala Phe Ser Pro Asp Ser Gln His Leu Ala Thr Gly Thr His Met Gly  
 115 120 125  
 Lys Val Asn Ile Phe Gly Val Glu Ser Gly Lys Lys Glu Tyr Ser Leu  
 130 135 140  
 Asp Thr Arg Gly Lys Phe Ile Leu Ser Ile Ala Tyr Ser Pro Asp Gly  
 145 150 155 160  
 Lys Tyr Leu Ala Ser Gly Ala Ile Asp Gly Ile Ile Asn Ile Phe Asp  
 165 170 175  
 Ile Ala Thr Gly Lys Leu Leu His Thr Leu Glu Gly His Ala Met Pro  
 180 185 190  
 Ile Arg Ser Leu Thr Phe Ser Pro Asp Ser Gln Leu Leu Val Thr Ala  
 195 200 205  
 Ser Asp Asp Gly Tyr Ile Lys Ile Tyr Asp Val Gln His Ala Asn Leu  
 210 215 220  
 Ala Gly Thr Leu Ser Gly His Ala Ser Trp Val Leu Asn Val Ala Phe  
 225 230 235 240  
 Cys Pro Asp Asp Thr His Phe Val Ser Ser Ser Asp Lys Ser Val  
 245 250 255  
 Lys Val Trp Asp Val Gly Thr Arg Thr Cys Val His Thr Phe Phe Asp  
 260 265 270  
 His Gln Asp Gln Val Trp Gly Val Lys Tyr Asn Gly Asn Gly Ser Lys  
 275 280 285  
 Ile Val Ser Val Gly Asp Asp Gln Glu Ile His Ile Tyr Asp Cys Pro  
 290 295 300  
 Ile  
 305

&lt;210&gt; 4475

&lt;211&gt; 475

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4475

acgcgtgaac ccgtgagctt gggaggggat atcgccaag cgaggtctct ctgatcccgc  
 60  
 tgggtgtccag actccttctg gagttccaat cccaccctg gcacactgtc catctctggc  
 120  
 tggctctgtcg tgaagctgga gagccgtgca aggcgacaga gccttctgtg tggcccgtcc  
 180  
 tggcgctctg gggcaagggc tgacttgagc tgcttcgtct gctcatctgc tgtctgccag  
 240  
 ctgccctcag acctcctcct ggggtgcagcc cgttcccact tgagagggag gtggtcttca  
 300  
 ctttaggggg taggcacatc cctggtttgcg ccttgccccg acagcctcgt caatgcccag  
 360

ccacttctga gggctggagg gacaggaact tcctttcttc cccctttctg tctctctgcg  
420  
tgggtacaaa agcacgtctg tagtccatgt gtgtgaagag aggacgcatt ctaga  
475

<210> 4476

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4476

Met	Cys	Leu	Pro	Pro	Lys	Val	Lys	Thr	Thr	Ser	Leu	Ser	Ser	Gly	Asn
1				5				10						15	
Gly	Leu	His	Pro	Gly	Gly	Gly	Leu	Arg	Ala	Ala	Gly	Arg	Gln	Gln	Met
			20				25						30		
Ser	Arg	Arg	Ser	Ser	Ser	Ser	Gln	Pro	Leu	Pro	Gln	Ser	Ala	Arg	Thr
			35				40						45		
Gly	His	Thr	Glu	Gly	Ser	Val	Ala	Leu	His	Gly	Ser	Pro	Ala	Ser	Arg
	50					55				60					
Gln	Thr	Ser	Gln	Arg	Trp	Thr	Val	Cys	Gln	Gly	Trp	Asp	Trp	Asn	Ser
65					70					75				80	
Arg	Arg	Ser	Leu	Asp	Thr	Ser	Gly	Ile	Arg	Glu	Thr	Ser	Leu	Gly	Arg
				85					90					95	
Tyr	Pro	Leu	Pro	Ser	Ser	Arg	Val	His	Ala						
			100					105							

<210> 4477

<211> 1153

<212> DNA

<213> Homo sapiens

<400> 4477

ctcttggcct ggctctctgc agtgccacgc tccgtgtatt tgacaagctg agttggacac  
60  
tccatgtggt agagtgtcag tttgtcaaat accccaagtg cggcacatgc ttaccagctc  
120  
taggccaggg cagatgggat atgacgaatg gactgccagc tggatacaag gatgctcacc  
180  
aagcaccaag ttctcacaag ttattttatg tgactttgca ggaactgagg cattatatct  
240  
gaggacacca ggggaaaagt gtggcatctc agggaaatac agccctgggc tgtgtctaca  
300  
cacaccatga gagtgcgat gggggcgcaa tagtcttgaa aatgtataaa gtgtccagga  
360  
atggaagtgc tctttgatcc attattatct tcttcttca tattccctc ccagagtctc  
420  
ctatctagga catcagcatt ctcacacaag cctaattggct tatctgagta agcagggctt  
480  
agaaattcac tttcttgata ctacgtcttg ccttctaaac actccttgat cttgcctacc  
540  
tctccctttt tccacatgct ttttctgta ggaacacttt ctccatttat tctgcctat  
600  
ccaattcttc cctatatttc ctggaccagc taaagtccag tgtttccaga gacttttgaa  
660

```
<210> 4478
<211> 118
<212> PRT
<213> Homo sapiens
```

```
<210> 4479
<211> 2158
<212> DNA
<213> Homo sapiens
```

3659

acggcaaccc agaggctgaa gcaggactac cttcgcatta agaaagaccc ggtgccttac  
240  
atctgtgccg agccccctccc ttccgaatatt ctcgagtggc actatgtcgt ccgaggccca  
300  
gagatgaccc cttatgaagg tggctattac catggaaaac taatttttcc cagagaattt  
360  
cctttcaaac ctcccagtat ctatatgatc actcccaacg ggagggttaa gtgcaacacc  
420  
aggctgtgtc tttctatcac ggatttccac ccggacacgt ggaaccgggc ctggtctgtc  
480  
tccaccatcc tgactgggct cctgagcttc atggtggaga agggccccac cctgggcagt  
540  
atagagacgt cggacttcac gaaaagacaa ctggcagtgc agagttagc atttaatttg  
600  
aaagataaag tcttttgtga attatttctt gaagtcgtgg aggagattaa acaaaaacag  
660  
aaagcacaag acgaactcag tagcagaccc cagactctcc ccttgccaga cgtggttcca  
720  
gacggggaga cgcacctcgt ccagaacggg attcagctgc tcaacgggca tgcgccgggg  
780  
gccgtcccaa acctcgcagg gctccagcag gccaacgggc accacggact cctgggtggc  
840  
gccctggcga acttgtttgt gatagttggg tttgcagcct ttgcttacac ggtcaagtac  
900  
gtgctgagga gcatcgcgca ggagtgaggc ccaggcgccg agaccaagg cgccactgag  
960  
ggcaccgcgc accagagcgt gacctcggca ggctggacac actgcccagc acaggcagac  
1020  
ccaccaggct cctaggttta gcttttaaaa acctgaaagg ggaagcaaaa accaaaatgt  
1080  
gtgactgggc tttggaggag actggagcct cagccctgtc ctggccacgg gccgctgggg  
1140  
ctggtgtggg tgggccttgt gtgctggatt tgtagcttat ctccgtgtt gtctttggac  
1200  
ctgttttagt aaaccgttt ttcatTTTTat tagatgtggc cacttagaaa tgcaaacttg  
1260  
ctgccgaccg cgggctgtc ctgcgttctt ggagctcctg gcgcgtttct cggagctccc  
1320  
ggctcctcag cgggtgggaa cctcggggcc caggggtgga gctggcgctc gcgggtgctg  
1380  
gtctggcctg gccgtgtggt gatgaggett agcggggcca gtgacggccg tggctcagga  
1440  
tccataagtc ggggttttgt ctcagcattt acaaatttgt ttacagtcag aatgaaacac  
1500  
attccttcta gaaagtgett gggggTTTTt gctgccctgg aagccaggag cctgctcaet  
1560  
ccaaccacaa gtgcaccttg actgcggcgg ccgcgagcgg ggcgggggct gccggtgccc  
1620  
tccgcaggcc gggcctcctg ggcgcccctc ggtgctgcag gctggggggc cttgggtacc  
1680  
tgcagagcct tttctctgaa ttcttatgt ccggtgggccc agaagcccg cctcctatgc  
1740  
tggtggaagg cggaggaccg gagtccctgc agaaggcccc gtgcactcgg gggcctccct  
1800



cacatcccgt gccccctgcg ctggccttca cagtaggtaa tggctccggc ccgggtgttc  
 1860  
 gctgtccacg gaacatggca gaggggcacc ccggcccgga aagacgccag agccagcagg  
 1920  
 ggctgtttcg ggccgcgtgg ctccccgggt ctcggccgtc tccccctcttc tgcgtctgtt  
 1980  
 ccgtgacttc gcctgggtgg gatgtaccgc aggtgcatcg cgtcgaggtg gggcacggcc  
 2040  
 gccggcaaga aaccaccct gtccggaggc gggcgtgaga caagccagc ccgcacgcgc  
 2100  
 tcattctttct tcgttttttg atcagtttat tcagaattgc tctataattt accaattg  
 2158

<210> 4480

<211> 308

<212> PRT

<213> Homo sapiens

<400> 4480

Xaa	Arg	Arg	Pro	Ala	Ala	Gly	Ser	Val	Gly	Pro	Ile	Pro	Gly	Arg	Cys
1			5						10					15	
Gly	Cys	Phe	Gly	Arg	Gly	Pro	Arg	Phe	Ser	Ala	Pro	Cys	Ser	Gly	Leu
			20					25						30	
Asp	Tyr	Gly	Glu	Pro	Glu	Arg	Gly	Gly	Gly	Pro	Arg	Ala	Ala	Gln	Gly
			35					40					45		
Glu	Met	Ser	Ser	Thr	Ser	Ser	Lys	Arg	Ala	Pro	Thr	Thr	Ala	Thr	Gln
			50				55					60			
Arg	Leu	Lys	Gln	Asp	Tyr	Leu	Arg	Ile	Lys	Lys	Asp	Pro	Val	Pro	Tyr
65					70					75				80	
Ile	Cys	Ala	Glu	Pro	Leu	Pro	Ser	Asn	Ile	Leu	Glu	Trp	His	Tyr	Val
				85					90					95	
Val	Arg	Gly	Pro	Glu	Met	Thr	Pro	Tyr	Glu	Gly	Gly	Tyr	Tyr	His	Gly
			100					105					110		
Lys	Leu	Ile	Phe	Pro	Arg	Glu	Phe	Pro	Phe	Lys	Pro	Pro	Ser	Ile	Tyr
			115				120					125			
Met	Ile	Thr	Pro	Asn	Gly	Arg	Phe	Lys	Cys	Asn	Thr	Arg	Leu	Cys	Leu
			130			135					140				
Ser	Ile	Thr	Asp	Phe	His	Pro	Asp	Thr	Trp	Asn	Pro	Ala	Trp	Ser	Val
145					150					155				160	
Ser	Thr	Ile	Leu	Thr	Gly	Leu	Leu	Ser	Phe	Met	Val	Glu	Lys	Gly	Pro
				165					170					175	
Thr	Leu	Gly	Ser	Ile	Glu	Thr	Ser	Asp	Phe	Thr	Lys	Arg	Gln	Leu	Ala
			180					185					190		
Val	Gln	Ser	Leu	Ala	Phe	Asn	Leu	Lys	Asp	Lys	Val	Phe	Cys	Glu	Leu
			195				200					205			
Phe	Pro	Glu	Val	Val	Glu	Glu	Ile	Lys	Gln	Lys	Gln	Lys	Ala	Gln	Asp
			210			215					220				
Glu	Leu	Ser	Ser	Arg	Pro	Gln	Thr	Leu	Pro	Leu	Pro	Asp	Val	Val	Pro
225					230					235				240	
Asp	Gly	Glu	Thr	His	Leu	Val	Gln	Asn	Gly	Ile	Gln	Leu	Leu	Asn	Gly
				245					250					255	
His	Ala	Pro	Gly	Ala	Val	Pro	Asn	Leu	Ala	Gly	Leu	Gln	Gln	Ala	Asn
			260					265					270		
Arg	His	His	Gly	Leu	Leu	Gly	Gly	Ala	Leu	Ala	Asn	Leu	Phe	Val	Ile

275                      280                      285  
 Val Gly Phe Ala Ala Phe Ala Tyr Thr Val Lys Tyr Val Leu Arg Ser  
 290                      295                      300  
 Ile Ala Gln Glu  
 305

<210> 4481  
 <211> 320  
 <212> DNA  
 <213> Homo sapiens

<400> 4481  
 ggcacccctg tggggatggg ctgtgcctgg aggctggggg gctgcatctg gacagcctct  
 60  
 ggggtggggcc tcggaacctc ctgctgtgca gccagaaaac aggactcggc ctgtccaccc  
 120  
 acgtgggggag gggaccccg gctggggcttc gtaggggctt caaggacccc tgacttctgg  
 180  
 ggtgtgcctg acagcagggg aggccccaga gctggccttg gccatgtcca gtcocctaatt  
 240  
 gacctttgtc ccttccttcc cctgcctctc tgtgcgtcgc tggactcgcc acgggagttc  
 300  
 tcacgaatgg gcaccaatt  
 320

<210> 4482  
 <211> 101  
 <212> PRT  
 <213> Homo sapiens

<400> 4482  
 Met Gly Cys Ala Trp Arg Leu Gly Gly Cys Ile Trp Thr Ala Ser Gly  
 1                      5                      10                      15  
 Trp Gly Leu Gly Thr Ser Cys Cys Ala Ala Arg Lys Gln Asp Ser Ala  
 20                      25                      30  
 Cys Pro Pro Thr Trp Gly Gly Asp Pro Gly Leu Gly Phe Val Gly Ala  
 35                      40                      45  
 Ser Arg Thr Pro Asp Phe Trp Gly Val Pro Asp Ser Arg Gly Gly Pro  
 50                      55                      60  
 Arg Ala Gly Leu Gly His Val Gln Ser Leu Ile Asp Leu Cys Pro Phe  
 65                      70                      75                      80  
 Leu Pro Leu Pro Leu Cys Ala Ser Leu Asp Ser Pro Arg Glu Phe Ser  
 85                      90                      95  
 Arg Met Gly Thr Gln  
 100

<210> 4483  
 <211> 1852  
 <212> DNA  
 <213> Homo sapiens

<400> 4483  
 nnggttgagg cgtgccggga gctgagttat agctgtgact tctgccctgc caggccgcac  
 60

acaagctggc tgacccggtt tgtaaaaatg gaatttcaag cagtagtgat ggcagtaggt  
120  
ggaggatctc ggatgacaga cctaacttcc agcattccca aacctctgct tccagttggg  
180  
aacaacctt taatttggtta cccattgaac ctgcttgagc gtgttggtt tgaagaagtc  
240  
attgtgggtta caaccagga tggtcaaaag gctctatgtg cagaattcaa gatgaaaatg  
300  
aagccagata ttgtgtgtat tcctgatgac gctgacatgg gaactgcaga ttctttgcgc  
360  
tacatatatc caaaacttaa gacagatgtg ctgggtgctga gctgtgatct gataacagac  
420  
gttgcccttac atgaggttgt ggacctgttt agagcttatg atgcatcact tgctatgttg  
480  
atgagaaaag gccaaagatag catagaacct gttcccggtc aaaaggggaa aaaaaagca  
540  
gtggagcagc gtgacttcat tggagtggac agcacaggaa agaggctgct cttcatggct  
600  
aatgaagcag acttggtatga agagctggtc attaaggat ccacccata gaagcatcct  
660  
agaatacgtt tccacacggg tcttgtggat gccacctct actgtttgaa aaaatacatc  
720  
gtggatttcc taatggaaaa tgggtcaata acttctatcc ggagtgaact gattccatat  
780  
ttagtgagaa aacagttttc ctcagcttcc tcacaacagg gacaagaaga aaaagaggag  
840  
gatctaaaga aaaaggagct gaagtcctta gatctctaca gttttataaa agaagccaat  
900  
acactgaacc tggtcccta tgatgctgc tggaatgcct gtcgaggaga caggtgggaa  
960  
gacttgacca gatcacagg gctgtgctat gtccacatca tgaaagaggg gctctgctct  
1020  
cgagtgaagc cactgggact ctacatggaa gcaaacagac aggtgcccac attgctgtct  
1080  
gctctctgtc cagaagaacc accagtccat tcgtcagccc agattgtcag caaacacctg  
1140  
gttgaggttg acagcctcat tgggccagag acacagattg gagagaagtc atccattaag  
1200  
cgctcagtca ttggctcatc ctgtctcata aaagatagag tgactattac caattgcctt  
1260  
ctcatgaact cagtcactgt ggaggaagga agcaatatcc aaggcagtgt catctgcaac  
1320  
aatgctgtga tcgagaaggg tgcagacatc aaggactgct tgattggaag tggccagagg  
1380  
attgaagcca aagctaaacg agtgaatgag gtgatcgtgg ggaatgacca gctcatggag  
1440  
atctgagttc tgagcaagtc agactccttc cttttggcct ccaaagccac agatgttggc  
1500  
cggcccacct gtttaactct gtatttattt cccaataaag aagggtctcc aaaggcatgc  
1560  
tggagacttg tggagcagtc caaagctcca tgtcaggtgg gctccaggtg tacacagtgt  
1620  
atgttcatgt gtcagtgtgt aaagatcatc tggagcaagt gtgtgggaca ggacagatac  
1680

agtggcctaa ctcttgtgtg ccaagatgta tcggtggggc agcagctgtc caatgtaaag  
 1740  
 ctcctaggaa ggctactttc tgactggctg acccaaccca gtcctgaaag tatccctcac  
 1800  
 ctaaaaggac ctgggagtag ttcagtcctt tatectaate agcctttcta ga  
 1852

<210> 4484

<211> 452

<212> PRT

<213> Homo sapiens

<400> 4484

Met	Glu	Phe	Gln	Ala	Val	Val	Met	Ala	Val	Gly	Gly	Gly	Ser	Arg	Met
1				5					10					15	
Thr	Asp	Leu	Thr	Ser	Ser	Ile	Pro	Lys	Pro	Leu	Leu	Pro	Val	Gly	Asn
			20					25					30		
Lys	Pro	Leu	Ile	Trp	Tyr	Pro	Leu	Asn	Leu	Leu	Glu	Arg	Val	Gly	Phe
		35					40					45			
Glu	Glu	Val	Ile	Val	Val	Thr	Thr	Arg	Asp	Val	Gln	Lys	Ala	Leu	Cys
	50					55				60					
Ala	Glu	Phe	Lys	Met	Lys	Met	Lys	Pro	Asp	Ile	Val	Cys	Ile	Pro	Asp
65					70					75				80	
Asp	Ala	Asp	Met	Gly	Thr	Ala	Asp	Ser	Leu	Arg	Tyr	Ile	Tyr	Pro	Lys
			85					90						95	
Leu	Lys	Thr	Asp	Val	Leu	Val	Leu	Ser	Cys	Asp	Leu	Ile	Thr	Asp	Val
			100					105					110		
Ala	Leu	His	Glu	Val	Val	Asp	Leu	Phe	Arg	Ala	Tyr	Asp	Ala	Ser	Leu
	115						120					125			
Ala	Met	Leu	Met	Arg	Lys	Gly	Gln	Asp	Ser	Ile	Glu	Pro	Val	Pro	Gly
	130					135					140				
Gln	Lys	Gly	Lys	Lys	Lys	Ala	Val	Glu	Gln	Arg	Asp	Phe	Ile	Gly	Val
145					150					155				160	
Asp	Ser	Thr	Gly	Lys	Arg	Leu	Leu	Phe	Met	Ala	Asn	Glu	Ala	Asp	Leu
			165					170						175	
Asp	Glu	Glu	Leu	Val	Ile	Lys	Gly	Ser	Ile	Leu	Gln	Lys	His	Pro	Arg
		180						185					190		
Ile	Arg	Phe	His	Thr	Gly	Leu	Val	Asp	Ala	His	Leu	Tyr	Cys	Leu	Lys
	195					200						205			
Lys	Tyr	Ile	Val	Asp	Phe	Leu	Met	Glu	Asn	Gly	Ser	Ile	Thr	Ser	Ile
	210					215					220				
Arg	Ser	Glu	Leu	Ile	Pro	Tyr	Leu	Val	Arg	Lys	Gln	Phe	Ser	Ser	Ala
225					230					235				240	
Ser	Ser	Gln	Gln	Gly	Gln	Glu	Glu	Lys	Glu	Glu	Asp	Leu	Lys	Lys	Lys
			245						250				255		
Glu	Leu	Lys	Ser	Leu	Asp	Ile	Tyr	Ser	Phe	Ile	Lys	Glu	Ala	Asn	Thr
		260					265					270			
Leu	Asn	Leu	Ala	Pro	Tyr	Asp	Ala	Cys	Trp	Asn	Ala	Cys	Arg	Gly	Asp
	275					280						285			
Arg	Trp	Glu	Asp	Leu	Ser	Arg	Ser	Gln	Val	Arg	Cys	Tyr	Val	His	Ile
	290					295				300					
Met	Lys	Glu	Gly	Leu	Cys	Ser	Arg	Val	Ser	Thr	Leu	Gly	Leu	Tyr	Met
305				310						315				320	
Glu	Ala	Asn	Arg	Gln	Val	Pro	Lys	Leu	Leu	Ser	Ala	Leu	Cys	Pro	Glu

325 330 335  
 Glu Pro Pro Val His Ser Ser Ala Gln Ile Val Ser Lys His Leu Val  
 340 345 350  
 Gly Val Asp Ser Leu Ile Gly Pro Glu Thr Gln Ile Gly Glu Lys Ser  
 355 360 365  
 Ser Ile Lys Arg Ser Val Ile Gly Ser Ser Cys Leu Ile Lys Asp Arg  
 370 375 380  
 Val Thr Ile Thr Asn Cys Leu Leu Met Asn Ser Val Thr Val Glu Glu  
 385 390 395 400  
 Gly Ser Asn Ile Gln Gly Ser Val Ile Cys Asn Asn Ala Val Ile Glu  
 405 410 415  
 Lys Gly Ala Asp Ile Lys Asp Cys Leu Ile Gly Ser Gly Gln Arg Ile  
 420 425 430  
 Glu Ala Lys Ala Lys Arg Val Asn Glu Val Ile Val Gly Asn Asp Gln  
 435 440 445  
 Leu Met Glu Ile  
 450

&lt;210&gt; 4485

&lt;211&gt; 513

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4485

ggatccacgt cagcccgaca tcgctgcttt atagccatgt tcacgtgtca tatgcgtctc  
 60  
 aggggtaccca aaatcacagg gccaaactcac ggggctccta ccactctagc cagtcattggg  
 120  
 gtcaggaata cccaccctc atccaaaatg tgtactcccc caaccttttg tgttcagacc  
 180  
 cacaggcctt atagcgccct gtgcgtgccc cagcatttcc ctgcctagtg gggctccagg  
 240  
 cgggcagggt gacctccttc ccaggcagt tccacacctg atcccaaaag tcagttctaa  
 300  
 tgaagtggat tcattcaaact actggtgggt ctggttggcc cgggtaagtg agggcacaga  
 360  
 gaaaaccccc aaatgtagag tatgtgacac agcaciaaagc agtcccatgc caaactgatg  
 420  
 cagtggcatt ccaagtttag agttccaccg cttgagacca tccaggattc ttttaccat  
 480  
 tacttgcctt actgtctcct atctatttca tga  
 513

&lt;210&gt; 4486

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4486

Met Gly Ser Gly Ile Pro His Pro His Pro Lys Cys Val Leu Pro Gln  
 1 5 10 15  
 Pro Phe Val Phe Arg Pro Thr Gly Leu Ile Ala Pro Cys Ala Cys Pro  
 20 25 30  
 Ser Ile Ser Leu Pro Ser Gly Ala Pro Gly Gly Gln Gly Asp Leu Leu

```

      35              40              45
Pro Gln Ala Val Pro His Leu Ile Pro Lys Val Ser Ser Asn Glu Val
      50              55              60
Asp Ser Phe Lys Tyr Trp Trp Phe Trp Leu Ala Arg Val Ser Glu Gly
      65              70              75              80
Thr Glu Lys Thr Pro Lys Cys Arg Val Cys Asp Thr Ala Gln Ser Ser
      85              90              95
Pro Met Pro Asn
      100

```

&lt;210&gt; 4487

&lt;211&gt; 387

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4487

```

nnacgcgttaa agatactttt tcttttctgg attcccaatt ttaggtggca gtcgcaaccc
60
atactattcg gacagatggc acagaaaccg ctgcgcctct tggcttgtgg agatgttgaa
120
ggaaagtttg atattttatt caatagagtt caagcaattc agaagaaaag tggaaacttt
180
gatctgctgt tgtgtgtagg aaatttcttt ggctccaccc aagatgctga atgggaggag
240
tataagactg gcatcaagaa agctcctatt cagacatatg tgcttggtgc taataaccag
300
gaaacagtaa aatatttcca ggatgctgat ggatgtgaat tagctgaaaa cattacttat
360
ctgggtcgta aaggatatctt cactgga
387

```

&lt;210&gt; 4488

&lt;211&gt; 129

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4488

```

Xaa Arg Val Lys Ile Leu Phe Leu Phe Trp Ile Pro Asn Phe Arg Trp
1      5      10      15
Gln Ser Gln Pro Ile Leu Phe Gly Gln Met Ala Gln Lys Pro Leu Arg
      20      25      30
Leu Leu Ala Cys Gly Asp Val Glu Gly Lys Phe Asp Ile Leu Phe Asn
      35      40      45
Arg Val Gln Ala Ile Gln Lys Lys Ser Gly Asn Phe Asp Leu Leu Leu
      50      55      60
Cys Val Gly Asn Phe Phe Gly Ser Thr Gln Asp Ala Glu Trp Glu Glu
      65      70      75      80
Tyr Lys Thr Gly Ile Lys Lys Ala Pro Ile Gln Thr Tyr Val Leu Gly
      85      90      95
Ala Asn Asn Gln Glu Thr Val Lys Tyr Phe Gln Asp Ala Asp Gly Cys
      100      105      110
Glu Leu Ala Glu Asn Ile Thr Tyr Leu Gly Arg Lys Gly Ile Phe Thr
      115      120      125
Gly

```

&lt;210&gt; 4489

&lt;211&gt; 2390

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4489

ngaattcaga ttgtgggggtt gacagaactt cagagtcttg cagttggggcc ccgagttttc  
60  
cagtacggag tcaaagttgt acttcaggct atgtacttgc tgtggaagtt gatgtggagg  
120  
gagccagggtg cctatatctt tctccagaac cccccaggtc tgcctagcat tgctgtctgc  
180  
tggttcgtgg gctgcctttg tggaagcaag ctcgctcattg actggcacaa ctatggctac  
240  
tccatcatgg gtctggtgca tggccccaac catcccctcg ttctgctggc caagtggtag  
300  
gagaagttct ttgggcgcct gtcccacctg aacctgtgtg ttaccaatgc tatgcgagaa  
360  
gacctggcgg ataactggca catcagggtg gtgaccgtct acgacaagcc cgcactcttc  
420  
tttaaagaga cacctctgga cctgcagcac cggctcttca tgaagctggg cagcatgcac  
480  
tctccgttca gggcccgctc agaacctgag gacccagtca cggagcggtc ggccttcacg  
540  
gagcgggatg ctgggagcgg gctggtgacg cgtctccgtg agcggccagc cctgctggtc  
600  
agcagcacga gctggacaga ggacgaagac ttctccatcc tgctggcagc tttagaaaag  
660  
tttgaacaac tgactcttga tggacacaac cttccttctc tcgtctgtgt gataacaggc  
720  
aaagggcctc tgagggagta ttatagccgc ctcattccacc agaagcactt ccagcacatc  
780  
caggtctgca cccctgggt ggaggccgag gactaccccc tgcttctagg gtcggcggac  
840  
ctgggtgtct gtctgcacac gtcctccagt ggctggacc tgcccatgaa ggtggtggac  
900  
atgttcgggt gctgtttgcc tgtgtgtgct gtgaacttca agtgtttaca tgagctggtg  
960  
aaacatgaag aaaatggcct ggtctttgag gactcagagg aactggcagc tcagctgcag  
1020  
atgcttttct caaactttcc tgatcctgcg ggcaagctaa accagttccg gaagaacctg  
1080  
cgggagtcgc agcagctccg atgggatgag agctgggtgc agactgtgct ccctttggtt  
1140  
atggacacat aactcctggg ccagaggcta taaaacccca ggacccctgc tgccttccc  
1200  
gcagcttctt cttggagtct cagggcaaac cctttcgagc agcacctccc agtggccaga  
1260  
agctgaaatg acagcagtgg tactgcctgg taaaagaatt ggttctgtga cccgggaagc  
1320  
tttggttggc cttgatttct tctctggagg cttggaaacg cttcctctct tcttctgttc  
1380

ttcacgcccc atgcccctgc tagcgtatta ctgttctgtg acttccctgt gacctctgca  
 1440  
 gaactcctca tcttgcgttt ggtctccagg tgtccccctt ctgccgtgtt cctaacattt  
 1500  
 tgattcctgt cttgaaaaaa gcacctgctg caccgtaagc ccagggatgt ggcagctgca  
 1560  
 gtgggcttgg ctttgtgagg aactgagtgt gtccacgttg ggggaacatc atacttgata  
 1620  
 cacacgtttt tatttgcaca aagaaaatgc tatttttggga gccagaattt tcatgtctga  
 1680  
 tttatggtga ttttcttaag aaccagaact gctggcagaa agggggcacc cacacgttta  
 1740  
 gatagccgat gtcttattag agggcagttt gtggttcctg atttggaat taacattctc  
 1800  
 caaacattcc agtccaatga aagttttatc cgctttccca tataaaaatt cttcccatga  
 1860  
 gagtgatattg attctcacia tcccgttggga gtcgtgtgtg agtcctacag tgtgaggttc  
 1920  
 agcattgccca tctccaagtg ctcttcgtag ggaaacagtt tctggtcatg atgagcttcc  
 1980  
 gcttcccata tgatcccagc ccggcctagc tcggtggtga acagctggca cgtctctggg  
 2040  
 ttgtggacgg taaaggccac gtagacctca ggagcccgtt ggtgctccca gcaggcagcc  
 2100  
 agcctccgca ggaccctgac cagcgacacg atggcttctg ggcaatacag cacgtcttct  
 2160  
 gcaaaatatc ccgcagcagc tcagaatctg atgagtctct taactttgct tctaagctca  
 2220  
 gtgtggacgg gggagagaga aatctcaagg gcgcattcac aggaacatta naacacgcaa  
 2280  
 tagaatgtgt tggcaaagct ctatgtgatc nctccctggg gacgtggagc cagttggaag  
 2340  
 tggaagccac agcggctgaa agcctgacct tcagatgtcg cagggtgcac  
 2390

&lt;210&gt; 4490

&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4490

Xaa	Ile	Gln	Ile	Val	Gly	Leu	Thr	Glu	Leu	Gln	Ser	Leu	Ala	Val	Gly
1				5				10						15	
Pro	Arg	Val	Phe	Gln	Tyr	Gly	Val	Lys	Val	Val	Leu	Gln	Ala	Met	Tyr
			20					25					30		
Leu	Leu	Trp	Lys	Leu	Met	Trp	Arg	Glu	Pro	Gly	Ala	Tyr	Ile	Phe	Leu
		35				40					45				
Gln	Asn	Pro	Pro	Gly	Leu	Pro	Ser	Ile	Ala	Val	Cys	Trp	Phe	Val	Gly
	50					55					60				
Cys	Leu	Cys	Gly	Ser	Lys	Leu	Val	Ile	Asp	Trp	His	Asn	Tyr	Gly	Tyr
65					70				75					80	
Ser	Ile	Met	Gly	Leu	Val	His	Gly	Pro	Asn	His	Pro	Leu	Val	Leu	Leu
			85					90						95	
Ala	Lys	Trp	Tyr	Glu	Lys	Phe	Phe	Gly	Arg	Leu	Ser	His	Leu	Asn	Leu



```

      100      105      110
Cys Val Thr Asn Ala Met Arg Glu Asp Leu Ala Asp Asn Trp His Ile
      115      120      125
Arg Ala Val Thr Val Tyr Asp Lys Pro Ala Ser Phe Phe Lys Glu Thr
      130      135      140
Pro Leu Asp Leu Gln His Arg Leu Phe Met Lys Leu Gly Ser Met His
145      150      155      160
Ser Pro Phe Arg Ala Arg Ser Glu Pro Glu Asp Pro Val Thr Glu Arg
      165      170      175
Ser Ala Phe Thr Glu Arg Asp Ala Gly Ser Gly Leu Val Thr Arg Leu
      180      185      190
Arg Glu Arg Pro Ala Leu Leu Val Ser Ser Thr Ser Trp Thr Glu Asp
      195      200      205
Glu Asp Phe Ser Ile Leu Leu Ala Ala Leu Glu Lys Phe Glu Gln Leu
      210      215      220
Thr Leu Asp Gly His Asn Leu Pro Ser Leu Val Cys Val Ile Thr Gly
225      230      235      240
Lys Gly Pro Leu Arg Glu Tyr Tyr Ser Arg Leu Ile His Gln Lys His
      245      250      255
Phe Gln His Ile Gln Val Cys Thr Pro Trp Leu Glu Ala Glu Asp Tyr
      260      265      270
Pro Leu Leu Leu Gly Ser Ala Asp Leu Gly Val Cys Leu His Thr Ser
      275      280      285
Ser Ser Gly Leu Asp Leu Pro Met Lys Val Val Asp Met Phe Gly Cys
      290      295      300
Cys Leu Pro Val Cys Ala Val Asn Phe Lys Cys Leu His Glu Leu Val
305      310      315      320
Lys His Glu Glu Asn Gly Leu Val Phe Glu Asp Ser Glu Glu Leu Ala
      325      330      335
Ala Gln Leu Gln Met Leu Phe Ser Asn Phe Pro Asp Pro Ala Gly Lys
      340      345      350
Leu Asn Gln Phe Arg Lys Asn Leu Arg Glu Ser Gln Gln Leu Arg Trp
      355      360      365
Asp Glu Ser Trp Val Gln Thr Val Leu Pro Leu Val Met Asp Thr
      370      375      380

```

&lt;210&gt; 4491

&lt;211&gt; 6712

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4491

```

ngtttttttt tttttttttt ttaaaagcag taatatcttt tatttaaaaa gttcatctta
60

```

```

gaagaaaatt caaaagggat acaataaact tttccatatc ccaaaaaactt gtgcccaaga
120

```

```

caaaaagagg gaagaattta agtttagggg tacatatgca ggtttgttac acaggtaaac
180

```

```

ttttgtgtca tggggattta ttatacagat tatttcatca cccaggtatt aagcctagta
240

```

```

cccattagtt atttttcctg ttcctctccc tcctcccacc ctccaccctt tgataggccc
300

```

```

cagtacatgt tgttccgaga gggaaaaaatt taaaaaacat atgcagttaa ataaccataa
360

```

tgaatagttt tcctagaaaa aaaaatattg ccttttaaaa aaaatcaa atgtactact  
420  
ttaaagggtg caaccatctc atattgaaaa ttaaagatgt tccttcctaa aattttacat  
480  
taatcaatta aatgtttatg ttagaaaatt taacattaat agaataaaaa ctgttttaga  
540  
aacatcacca agaacactgt tgtggcacat gtttgcaa attgcaattc ctgcaacatc  
600  
atatgtattg aaaagtctgg aaagcccatg tggctgagag ttaaatttat atactgaagt  
660  
aaaacctggg aatattcatc atgccaatta tagttcaatt attttatcag acagaactct  
720  
gagagcaaat taaaatttta aaattttacc tattccatag actgaatttt tctagggtact  
780  
attttaatac aaattattac tatagcaaaa ttctgaacac tttttggttg ttagtatatt  
840  
ttaaaagtat taatatttct ttttacctct taaatataaa gaaagcttca attcagcctt  
900  
ctattcatcc agatacattg catgtatatg tgttaaaaaa acgactaggc aattagattt  
960  
acttatctta ctttattcat aaataagaat tttcctaagt gcagtgaggg gtaggagaca  
1020  
tggaacctt tctcatactt ataggtgata ttaaactgaa atatataact gccttttggg  
1080  
aacagtattt tttctgtttt ctatgaatta ccataagca tagcaaaacc aagataaatt  
1140  
taaatttaat attgttaaag agcactgttc aagataaact ttcatgtata tcacagtata  
1200  
gcattatata atgattttac gtaaaaatat ttagaagcac agtgatgatt ttaagaagcc  
1260  
ataaaacatt ttaatgaaat ataagaaagt catgaatatt tatgtggata tgtatgttgc  
1320  
aaatttaagg taaatcaaca taggataaac acagaagatt acatacaaac cctacatatt  
1380  
ttatttctgg tgaaacatat aaacactttc ctactatagt acaaaatcaa ttagttcctc  
1440  
taccagcact aaagacttgt catctaaata tattcatttt aggggagaaa aaaatgcttc  
1500  
acatttttct aaaatgaaga ctgcaataaa ttagtgcttt aaaaaatata tatatatagg  
1560  
atatagatcc taagaaaata aaactaaagt ataaaaaatg aatagcattt cttttcctgc  
1620  
catcatatcc tttcttatct cattcctaca tagaatgaat gataagctaa attatttaga  
1680  
catgtatggt gactgaaagc aatgtcttca aggaaacagc ttcttggtta gcctcttact  
1740  
ctaccatact tagagtaaaa atcaaaggat attttagaaa tgtcttgtaa ctattgttgt  
1800  
agcaataatc tgtcttggtta gaacaacaca ataaaaatga cctagagaat tccatgaaca  
1860  
atgatacttg gattacaaga gagctaaaaa tcagaggcta ttctgtgtg caaactattt  
1920  
ttaccagtct aaatactata tggtttacca ctgaacaccc aagtttgact gaagtgaaca  
1980

tttgtacta tcagtaaaaa actccctctc ttacaggaat ggcagaaata tagacattta  
2040  
gtcatcaaaa atggcacaat gtacatcaca caaatgatta tattatgggt cataaggaaa  
2100  
acagccacaa ttttgatcag agaaatgtta atacatatga agccttaaaa cagcaacatg  
2160  
gcggggaagg agagggaggc gggaacctaa tgcatttgaa ttaaaggaaa caggcaatat  
2220  
ttggtcgatg taaacaatgc tattaacga gtgctttatc tactttactg aaatacggaa  
2280  
atacttatgt acacgattta aatgtgcaca agacttgggc tttttcttc tagactatgt  
2340  
acatcattca gcacacaatt caaaaagttc tgggtgattc aacacactcc cagtaagatt  
2400  
atgttacact gaaacatata atattaaact ttcaagagac tgcttttgat gctaaggagt  
2460  
aatctatttt tacaagaatg ctcaatgggt gtgatttcta gaatatcttt ttcaatatca  
2520  
ccaaaaataa gataaaattt attttaaaat tatgatttag aggtagagct gaaattattt  
2580  
atttaaatta taggaaagaa agacataaaa tcattgtgag agaataatgg tgaaaaacat  
2640  
tcttgccata gagtctccat cttctttggc tatagttgtt gtttcaagtt gaaacagcat  
2700  
cactagtatt gctgccttcg aacattttgt ttctggaaaa aagcctttcc aaattcatat  
2760  
gtactgatca taatggcaca agcaggagca attttaatta agcgaggaat taggcctgaa  
2820  
aataatccgg aaaatccatt tttagcaaca atgttcttca ttataatcca ggttgacata  
2880  
tgcaaaggca tagaaatttt atgactttca tatgtccaaa gttgtgtctg cttttgtgtt  
2940  
tttactacat caaatggtaa agttgcaaca gcagcaaaaag aaccagacaa tgcccctgaa  
3000  
gtaaagttga tcataaatgt tggctcatat aaaccagatt tctcacataa ccacttcttt  
3060  
aaaatttcat agttatacca gtacattgct gagaaaggta catctctaag aacagtagga  
3120  
gcccagcccc tccaaaggga aatccaacca tcttcagata ctttcttgct gacaaatcga  
3180  
tgcagttcca cgtaagaaaa cttcttggaac tgcattctgg ttctaataca ttctagtgga  
3240  
cttatcacag ttactgcacc aaatctggct acaattccag caacaattgg tatgcagggt  
3300  
tcattttctc ctaacttaga tctcagaaga gcacttaatt gatcatagca ggtaaaataa  
3360  
ataactgtgg caggaactgc catcactagg gtaggaggaa ggccactcca tagagattta  
3420  
atgccctcat ttcgaatgat tttaaaaaat gcatccaatg ttccctggaa atttcttggc  
3480  
ttcttatacc atagtttgtt gcctccctct tcacagacac atagatgatc catgagtcca  
3540  
ttactatata caaaacattt tcctttgggg agtgggttgt tttgggcttg gagtctaatt  
3600

ttaacaacat ccaggggtgt cactattact gatgtcagta tagctccagt acatgaggca  
3660  
agcatttgtt gaagaggtgt cactttgata atctcttgtc cccttgcttc aggatccata  
3720  
tttttaacta attaaataaa aacctgggtt gagtctgttc ttcaactcta tgctccaata  
3780  
ttttattgtt tgtaacatca gtagccaaaa acctggggca gaaggcagct gcagggccgg  
3840  
cagtcctggc aaacctagaa ggcgggaata accctgggtga cgggcggggc cgggctccgg  
3900  
cgctaactgc atccactagg tttggtcaac acagagccgc gccaaactctc tgaggctgcg  
3960  
ccaagacctg aagcggcgga ccgagagccc gggctctgaga ctgagagagc aacggaatgg  
4020  
aggcggggta gaggcggaaa cacaacctgc agggccagag cgaggcgcga gaaggacggc  
4080  
ggcgtgaggg ggcggggcgc gcagcgcgag aaggcaggca cgagggggcga ggcgagggcg  
4140  
gggcacggcg cgtggcggtga gacggggcgg ggcgcgcgta tcggcgccgc ggccgcgtga  
4200  
cgcgttttca aatcttcaac cgccgcagcc cactcgtttg tgctttgcgc cttectcttc  
4260  
cgcgcttgg agccggatcc ggccccggaa acccgaccgc cagacgcggt acctctactg  
4320  
cgtagaggcc gtagctggcg gaaggagaga ggcggccgctc ctgtcaacag gccgggggaa  
4380  
gccgtgcttt cgcggtgcc cggtgcgaca ctttctccgg acccagcatg taggtgccgg  
4440  
gcgactgcca tgaactccgg agccatgagg atccacagta aaggacattt ccaggggtga  
4500  
atccaagtca aaaatgaaaa aaacagacca tctctgaaat ctctgaaaac tgataacagg  
4560  
ccagaaaaat ccaaagttaa gccactttgg ggaaaagtat tttaccttga cttaccttct  
4620  
gtcaccatat ctgaaaaact tcaaaaggac attagagatc tgggagggcg agttgaagaa  
4680  
tttctcagca aagatatcag ttatcttatt tcaaataaga aggaagctaa atttgcacaa  
4740  
accttgggtc gaatttctcc tgtaccaagt ccagaatctg catatactgc agaaaccact  
4800  
tcacctcatc ccagccatga tggaagttca tttagtcac cagacacagt gtgtttaagc  
4860  
agaggaaaat tattagttga aaaagctatc aaggaccatg attttattcc ttcaaatagt  
4920  
atattatcaa atgccttgtc atggggagta aaaattcttc atattgatga cattagatac  
4980  
tacattgaac aaaagaaaaa agagttgtat ttactcaaga aatcaagtac ttcagtaaga  
5040  
gatgggggca aaagagttgg tagtggtgca caaaaaacaa gaacaggaag actcaaaaag  
5100  
ccttttgtaa aggtggaaga tatgagccaa ctttataggc cattttatct tcagctgacc  
5160  
aatatgcctt ttataaatta ttctattcag aagccctgca gtccatttga tgtagacaag  
5220

ccatctagta tgcaaaagca aactcaggtt aaactaagaa tccaaacaga tggcgataag  
5280  
tatggtggaa cctcaattca actccagttg aaagagaaga agaaaaaagg atattgtgaa  
5340  
tggtgcttgc agaaatatga agatctagaa actcaccttc taagtgaagca acacagaaac  
5400  
tttgacacaga gtaaccagta tcaagttggt gatgatattg tatctaagtt agtttttgac  
5460  
tttgtggaat atgaaaagga cacacctaaa aagaaaagaa taaaatacag tggtggatcc  
5520  
ctttctctg tttctgcaag tgtcctgaaa aagactgaac aaaaggaaaa agtggaattg  
5580  
caacatattt ctcagaaaga ttgccaggaa gatgatacaa cagtgaagga gcagaatttc  
5640  
ctgtataaag agaccagga aactgaaaaa agctcctgt ttatttcaga gcccatcccc  
5700  
cacccttcaa atgaattgag agggcttaat gagaaaatga gtaataaatg ttccatgtta  
5760  
agtacagctg aagatgacat aagacagaat tttacacagc tacctctaca taaaaacaaa  
5820  
caggaatgca ttcttgacat ttccgaacac acattaagtg aaaatgactt agaagaacta  
5880  
agggtagatc actataaatg taacatacag gcatctgtac atgtttctga tttcagtaca  
5940  
gataatagtg gatctcaacc aaaacagaag tcagatactg tgctttttcc agcaaaggat  
6000  
ctcaaggaaa aggaccttca ttcaatattt actcatgatt ctggtctgat aacaataaac  
6060  
agttcacaag agcacctaac tgttcaggca aaggctccat tccatactcc tctgaggaa  
6120  
cccaatgaat gtgacttcaa gaatatggat agtttacctt ctggtaaaat acatcgaaaa  
6180  
gtgaaaataa tattaggacg aaatagaaaa gaaaatctgg aaccaaatgc tgaatttgat  
6240  
aaaagaactg aatttattac acaagaagaa aacagaattt gtagttcacc ggtacagtct  
6300  
ttactagact tgtttcagac tagtgaagag aaatcagaat ttttgggttt cacaagctac  
6360  
acagaaaaga gtggtatatg caatgtttta gatatttggg aagaggaaaa ttcagataat  
6420  
ctgttaacag cgtttttctc gtccccttca acttctacat ttactggctt ttagaattta  
6480  
aaaaatgcat acttttcaga agtgataagg atcatattct tgaaattttt ataaatatgt  
6540  
atggaaattc ttaggattttt ttaccagct ttgtttacag acccaaagt aaatattaaa  
6600  
aataaatatt tgcaattttc tacagaattg aatacctgtt aaagaaaaat tacagaataa  
6660  
acttgtgact ggtcttgttt tacattaaaa aaaaaaaaaa aaaaaactcg ag  
6712

&lt;210&gt; 4492

&lt;211&gt; 674

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4492

```

Met Asn Ser Gly Ala Met Arg Ile His Ser Lys Gly His Phe Gln Gly
 1           5           10           15
Gly Ile Gln Val Lys Asn Glu Lys Asn Arg Pro Ser Leu Lys Ser Leu
 20           25           30
Lys Thr Asp Asn Arg Pro Glu Lys Ser Lys Cys Lys Pro Leu Trp Gly
 35           40           45
Lys Val Phe Tyr Leu Asp Leu Pro Ser Val Thr Ile Ser Glu Lys Leu
 50           55           60
Gln Lys Asp Ile Lys Asp Leu Gly Gly Arg Val Glu Glu Phe Leu Ser
 65           70           75           80
Lys Asp Ile Ser Tyr Leu Ile Ser Asn Lys Lys Glu Ala Lys Phe Ala
 85           90           95
Gln Thr Leu Gly Arg Ile Ser Pro Val Pro Ser Pro Glu Ser Ala Tyr
 100          105          110
Thr Ala Glu Thr Thr Ser Pro His Pro Ser His Asp Gly Ser Ser Phe
 115          120          125
Lys Ser Pro Asp Thr Val Cys Leu Ser Arg Gly Lys Leu Leu Val Glu
 130          135          140
Lys Ala Ile Lys Asp His Asp Phe Ile Pro Ser Asn Ser Ile Leu Ser
 145          150          155          160
Asn Ala Leu Ser Trp Gly Val Lys Ile Leu His Ile Asp Asp Ile Arg
 165          170          175
Tyr Tyr Ile Glu Gln Lys Lys Lys Glu Leu Tyr Leu Leu Lys Lys Ser
 180          185          190
Ser Thr Ser Val Arg Asp Gly Gly Lys Arg Val Gly Ser Gly Ala Gln
 195          200          205
Lys Thr Arg Thr Gly Arg Leu Lys Lys Pro Phe Val Lys Val Glu Asp
 210          215          220
Met Ser Gln Leu Tyr Arg Pro Phe Tyr Leu Gln Leu Thr Asn Met Pro
 225          230          235          240
Phe Ile Asn Tyr Ser Ile Gln Lys Pro Cys Ser Pro Phe Asp Val Asp
 245          250          255
Lys Pro Ser Ser Met Gln Lys Gln Thr Gln Val Lys Leu Arg Ile Gln
 260          265          270
Thr Asp Gly Asp Lys Tyr Gly Gly Thr Ser Ile Gln Leu Gln Leu Lys
 275          280          285
Glu Lys Lys Lys Lys Gly Tyr Cys Glu Cys Cys Leu Gln Lys Tyr Glu
 290          295          300
Asp Leu Glu Thr His Leu Leu Ser Glu Gln His Arg Asn Phe Ala Gln
 305          310          315          320
Ser Asn Gln Tyr Gln Val Val Asp Asp Ile Val Ser Lys Leu Val Phe
 325          330          335
Asp Phe Val Glu Tyr Glu Lys Asp Thr Pro Lys Lys Lys Arg Ile Lys
 340          345          350
Tyr Ser Val Gly Ser Leu Ser Pro Val Ser Ala Ser Val Leu Lys Lys
 355          360          365
Thr Glu Gln Lys Glu Lys Val Glu Leu Gln His Ile Ser Gln Lys Asp
 370          375          380
Cys Gln Glu Asp Asp Thr Thr Val Lys Glu Gln Asn Phe Leu Tyr Lys
 385          390          395          400
Glu Thr Gln Glu Thr Glu Lys Lys Leu Leu Phe Ile Ser Glu Pro Ile

```

405 410 415  
 Pro His Pro Ser Asn Glu Leu Arg Gly Leu Asn Glu Lys Met Ser Asn  
 420 425 430  
 Lys Cys Ser Met Leu Ser Thr Ala Glu Asp Asp Ile Arg Gln Asn Phe  
 435 440 445  
 Thr Gln Leu Pro Leu His Lys Asn Lys Gln Glu Cys Ile Leu Asp Ile  
 450 455 460  
 Ser Glu His Thr Leu Ser Glu Asn Asp Leu Glu Glu Leu Arg Val Asp  
 465 470 475 480  
 His Tyr Lys Cys Asn Ile Gln Ala Ser Val His Val Ser Asp Phe Ser  
 485 490 495  
 Thr Asp Asn Ser Gly Ser Gln Pro Lys Gln Lys Ser Asp Thr Val Leu  
 500 505 510  
 Phe Pro Ala Lys Asp Leu Lys Glu Lys Asp Leu His Ser Ile Phe Thr  
 515 520 525  
 His Asp Ser Gly Leu Ile Thr Ile Asn Ser Ser Gln Glu His Leu Thr  
 530 535 540  
 Val Gln Ala Lys Ala Pro Phe His Thr Pro Pro Glu Glu Pro Asn Glu  
 545 550 555 560  
 Cys Asp Phe Lys Asn Met Asp Ser Leu Pro Ser Gly Lys Ile His Arg  
 565 570 575  
 Lys Val Lys Ile Ile Leu Gly Arg Asn Arg Lys Glu Asn Leu Glu Pro  
 580 585 590  
 Asn Ala Glu Phe Asp Lys Arg Thr Glu Phe Ile Thr Gln Glu Glu Asn  
 595 600 605  
 Arg Ile Cys Ser Ser Pro Val Gln Ser Leu Leu Asp Leu Phe Gln Thr  
 610 615 620  
 Ser Glu Glu Lys Ser Glu Phe Leu Gly Phe Thr Ser Tyr Thr Glu Lys  
 625 630 635 640  
 Ser Gly Ile Cys Asn Val Leu Asp Ile Trp Glu Glu Glu Asn Ser Asp  
 645 650 655  
 Asn Leu Leu Thr Ala Phe Phe Ser Ser Pro Ser Thr Ser Thr Phe Thr  
 660 665 670  
 Gly Phe

&lt;210&gt; 4493

&lt;211&gt; 1829

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4493

nngtataaac tgtcaaattt tcaaataata ggtagggggc tttcactagg aaaatcatgt  
 60  
 gctcaaaaaga ggaaatgact cgtagtcagg ttcaggagtt agtggagtat ttggactttg  
 120  
 gtactgctgt cttccaaggt agctctaagt tttgatgtgt gggcttctga gtttatattc  
 180  
 tgaaaggaaa tacacttctt ttgaacatcc ccactagggt cttttccatt gtcaataagg  
 240  
 agcatcagcc agtgaatctg tttcagggtt ccattctgca gaactcctcc aaagcatgtg  
 300  
 ctagtggcaa gacagtgggt cttatgatgt tttcccttaa cttttccttg tatgttcttg  
 360

gggtggttcct aagggaaagg gaagcacatg atcatgggaa tgatagccca gaacaaaaag  
420  
aaatcctgtc ttaccacagt gttttatagg agagattggg agaaatcatc ctgttttctc  
480  
tgtgacctga tttcagaaga gactgatcca aaaattataa cggcagggaa cctagtgcac  
540  
ttggcactga gatttaaag caaccagaat tgtcctcaag gccagccat aaaagcattg  
600  
tctctctcga ctttctggta tcttggttaga gagcttttca ctgtgaggaa gtgtggaaaa  
660  
atagctctgt gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gtaatctgtt aggttgggga  
720  
taggttttct gctagccaat attaaaagag acctgcaata aaaaaattac cctgnatctg  
780  
atagaaagca agtggttttg tatgtgtggg tgaatgtgtg ttcattgccg tatatgtcta  
840  
cacacagatg acaaattata ttgaaatcg ttggaaaata aattcagatc aaaatgcctt  
900  
tcaggcccat tacctagaaa tctatcttaa aacctgggta tgctcctaag gtcatttctt  
960  
tgcttatgct aaattaatta caattatgaa tggaggatat tctactgtac ttttttaaaa  
1020  
agaaactatt tttgtgttg aaagtgaac caacatccag atctatagca gagtccttat  
1080  
tcttctcata aatcttttta ctttggctac aaatagatga tggatgatt ctattatata  
1140  
ttttatataa aatccatcca aattaagttt tgggtaagtg tgttgtttaa tctgaactat  
1200  
agtaacttaa tactctaaac aatagttcac tccatttggg cttttctcca cagatgtaat  
1260  
tatgttttca actcaggaac tatggcaagg aactttcccc agatcaaatt ctattaacgc  
1320  
tgagatacaa gtcattccatg cacagccact atcataccct ttattctcac tgaaaggcag  
1380  
aactcagaac ctgttatttt atgtctgtaa tcatgtactt tggcatcttt tggaggaaag  
1440  
gggcaggata actcactgga atgtacagta ttttgctagt gcatttcaag gaatggaatc  
1500  
ttctccagta tgaaattacc agatataaaa taatgtaatg atgctgagga tataagcttt  
1560  
tagaaggtaa tttgatggta tttctttctc gaatgaaaag ctgctgggtt accctcaacc  
1620  
ctattcatta gcattaccat gagtgaattt atatctaatt atttccactt gccctgttct  
1680  
cttcacacca aggaagctcc agatccagta tcttgtttgg cctcaaaaca gaagcagctt  
1740  
cttttgtctc ccagcagtag tgagccactc agtctcttcc acaggaagtt tgggagccta  
1800  
cattccttga gtcagggagc ttaattaca  
1829

&lt;210&gt; 4494

&lt;211&gt; 111

&lt;212&gt; PRT



&lt;213&gt; Homo sapiens

&lt;400&gt; 4494

```

Met Ile Met Gly Met Ile Ala Gln Asn Lys Lys Lys Ser Cys Leu Thr
 1           5           10           15
Thr Val Phe Tyr Arg Arg Asp Trp Glu Lys Ser Ser Cys Phe Leu Cys
      20           25           30
Asp Leu Ile Ser Glu Glu Thr Asp Pro Lys Ile Ile Thr Ala Gly Asn
      35           40           45
Leu Val His Leu Ala Leu Arg Phe Lys Cys Asn Gln Asn Cys Pro Gln
      50           55           60
Gly Pro Ala Ile Lys Ala Leu Ser Leu Ser Thr Phe Trp Tyr Leu Val
65           70           75           80
Arg Glu Leu Phe Thr Val Arg Lys Cys Gly Lys Ile Ala Leu Cys Val
      85           90           95
Cys Val Cys Val Cys Val Cys Val Cys Asn Leu Leu Gly Trp Gly
      100           105           110

```

&lt;210&gt; 4495

&lt;211&gt; 3623

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4495

```

cctgaatcct tggagactga catttttccc ccctaaaggc atagacaaca aaagaaattt
60
tattgagagg aaaacacaag tccttaaact gcaaagatgt ttgccaggat gtctgatctc
120
catgttctgc tgtaaatggc tctggtggga aagacagcct gtgggttctc cctgatgtct
180
ttattggaaa gcctggaccc agactggacc cctgaccagt atgattacag ctacgaggat
240
tataatcagg aagagaacac cagtagcaca cttaccacag ctgagaatcc tgactggtac
300
tacactgagg accaagctga tccatgccag cccaaccctt gtgaacacgg tggggactgc
360
ctcgtccatg ggagcacctt cacatgcagc tgccctggctc ctttctctgg gaataagtgt
420
cagaaagtgc aaaatactg caaggacaac ccatgtggcc ggggccaatg tctcattacc
480cctactaccg ctgtgtctgt aaacaccctt acacagggtcc cagctgtcc      540
caagtgggtc ctgtatgcag gccaaacccc tgccagaatg gggctacctg ctcccggcat
600
aagcggagat ccaagttcac ctgtgcctgt cccgaccagt tcaaggggaa attctgtgaa
660
ataggttctg atgactgcta tgttggcgat ggctactctt accgagggaa aatgaatagg
720
acagtcaacc agcatgcgtg cctttactgg aactcccacc tcctcttgca ggagaattac
780
aacatgttta tggaggatgc tgaaacccat gggattgggg aacacaattt ctgcagaaac
840
ccagatgcgg acgaaaagcc ctggtgcttt attaaagtta ccaatgacaa ggtgaaatgg
900
gaatactgtg atgtctcagc ctgctcagcc caggacgttg cctaccaga ggaaagcccc
960

```

actgagccat caaccaagct tccgggggttt gactcctgtg gaaagactga gatagcagag  
1020  
aggaagatca agagaatcta tggaggcttt aaaagcacgg cgggcaagca cccatggcag  
1080  
gcgtccctcc agtcctcgct gcctctgacc atctccatgc cccagggcca cttctgtggt  
1140  
ggggcactga tccaccctcg ctgggtgctc actgctgccc actgcaccga cataaaaacc  
1200  
agacatctaa aggtggtgct aggggaccag gacctgaaga aagaagaatt tcatgagcag  
1260  
agcttttaggg tggagaagat attcaagtac agccactaca atgaaagaga tgagattccc  
1320  
cacaatgata ttgcattgct caagttaaag ccagtggatg gtcactgtgc tctagaatcc  
1380  
aaatacgtga agactgtgtg cttgcctgat gggtcctttc cctctggggag tgagtgccac  
1440  
atctctggct ggggtgttac agaaacagga aaaggggtccc gccagctcct ggatgccaaa  
1500  
gtcaagctga ttgccaacac tttgtgcaac tcccgccaac tctatgacca catgattgat  
1560  
gacagtatga tctgtgcagg aaatcttcag aaacctgggc aagacacctg ccaggggtgac  
1620  
tctggaggcc ccctgacctg tgagaaggac ggcacctact acgtctatgg gatagtgagc  
1680  
tggggcctgg agtggtggga gagggccagggt gtctacaccc aagttaccaa attcctgaat  
1740  
tggatcaaag ccaccatcaa aagtgaaggt ggcttctaag gtactgtctt ctggacctca  
1800  
gagcccactc tccttggcac cctgacaccg ggaggcctca tggccaacaa tggacacctc  
1860  
cagagcctcc aggggaccac acagtagact atccctactc taagcagaga caactgccac  
1920  
ccagcctggg ccttcccaga ccagcatttg cacaatatca ccaggcttct tctgcctccc  
1980  
ttggtaaccc aaggaatgat ggaatcaaca caacatagta tgtttgcttt ccttacccaa  
2040  
ttgtaccttc tagaaaatca gtgttcacag agactgcctc caccacaggc atcctgcaaa  
2100  
tgcagactcc agaatcccca gcatcagcgg gaaccacat cacatcttta ttcctcagcc  
2160  
cagacactcg aggactcaa cagaatcagc catccacgtc taggtatcag agaggaccac  
2220  
aaatacaaca ttctccatct gctttcagag ttattatttt aataaaggaa gatctgggat  
2280  
gggctggtgg gccattccag cttgccgaaa tcaaagccat ctgaagcctg tctctggtga  
2340  
acaaacttcc tctctggcct ctcaggaatc aggggtggaca tggctcacia cagcagggcc  
2400  
ttcttctttt tgacgtgcag aatctcagtg gcatctgggt tcacctcccc actctgatga  
2460  
tctccagcct ccaactgcttc tgcccccccg taagctccct ggagaccag gcccttgcg  
2520  
ttggccagtt ccgcagcccc ccgagccatt tccactttgt aggagccagg aggggtccag  
2580

ccaacacctc tggtcaggtt caagtctgat ttatacttga catcactctg cagctggtgg  
 2640  
 gccttctgag catgcctgag gccagctgc tccgggtcgc aggtgggctg gggcaggggc  
 2700  
 tgctttagt gcacatcact ggccagctgc tggctcctct tggcctgaag gaggccgggc  
 2760  
 tggctgtgc tgctgtgaaa ctgggaccga ctcttggcaa agtccttctt gtactcattg  
 2820  
 tcaactctgga gcctgccaac gttgaggaaa tgcttcatcc ttgggtcatc gtcgacactg  
 2880  
 cggtagccga tctgcaggcc tcgggtccgc aggaaagcct ctttgtaccg gaaatcactg  
 2940  
 gcgatctccc tagatgcccg ggcagtctgg aaggggatgg catccagcct gaagtcataa  
 3000  
 ctgccagccc ggggtctgctc ccaggagttt ctgtagactt tgtcactcag atgcagcgca  
 3060  
 ttgaggcgag ctccgggtgaa atcgggatgg tcggggatca ggggtgtatct gtgcagggat  
 3120  
 tctgcatctc cagatctata catgcgctca ttgcagtgc tatagctgtt cttggcatga  
 3180  
 accaggtctg gggagtcaac cactgtgggtg aacttgatac tgtctgggtt tttacgggtac  
 3240  
 ttgggtctgc tgatgagttc tccagccttc tttgactct ccatctgtgg ggatctcagc  
 3300  
 gccagccatc ctatgccctt catgccgatc aggtctgact tgtagcgcaa ctcaactctgc  
 3360  
 agggcatggg ctttcttggc ccaggccatc ttcaggctct cgggcagtgc tgtgaacttg  
 3420  
 tgatactgtg tctgtagtc gtggtcgctg gccagagcct gggcattctt ggcattggacc  
 3480  
 aggtgcacca tgtccatggg cagatggaac tgggcttggc tgctggctgc cccctctctg  
 3540  
 tactgaagct cgctctgcag ctggcccatg cgccggcagt gctggatccg ggggtcgtct  
 3600  
 cttacactct ggggccctat gag  
 3623

&lt;210&gt; 4496

&lt;211&gt; 560

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4496

Met	Phe	Ala	Arg	Met	Ser	Asp	Leu	His	Val	Leu	Leu	Leu	Met	Ala	Leu
1				5					10					15	
Val	Gly	Lys	Thr	Ala	Cys	Gly	Phe	Ser	Leu	Met	Ser	Leu	Leu	Glu	Ser
			20					25					30		
Leu	Asp	Pro	Asp	Trp	Thr	Pro	Asp	Gln	Tyr	Asp	Tyr	Ser	Tyr	Glu	Asp
		35				40					45				
Tyr	Asn	Gln	Glu	Glu	Asn	Thr	Ser	Ser	Thr	Leu	Thr	His	Ala	Glu	Asn
	50				55					60					
Pro	Asp	Trp	Tyr	Tyr	Thr	Glu	Asp	Gln	Ala	Asp	Pro	Cys	Gln	Pro	Asn
65					70				75					80	
Pro	Cys	Glu	His	Gly	Gly	Asp	Cys	Leu	Val	His	Gly	Ser	Thr	Phe	Thr

85														90				95			
Cys	Ser	Cys	Leu	Ala	Pro	Phe	Ser	Gly	Asn	Lys	Cys	Gln	Lys	Val	Gln						
			100					105					110								
Asn	Thr	Cys	Lys	Asp	Asn	Pro	Cys	Gly	Arg	Gly	Gln	Cys	Leu	Ile	Thr						
			115					120					125								
Gln	Ser	Pro	Pro	Tyr	Tyr	Arg	Cys	Val	Cys	Lys	His	Pro	Tyr	Thr	Gly						
			130					135					140								
Pro	Ser	Cys	Ser	Gln	Val	Val	Pro	Val	Cys	Arg	Pro	Asn	Pro	Cys	Gln						
145				150				155				160									
Asn	Gly	Ala	Thr	Cys	Ser	Arg	His	Lys	Arg	Arg	Ser	Lys	Phe	Thr	Cys						
			165				170				175										
Ala	Cys	Pro	Asp	Gln	Phe	Lys	Gly	Lys	Phe	Cys	Glu	Ile	Gly	Ser	Asp						
			180				185				190										
Asp	Cys	Tyr	Val	Gly	Asp	Gly	Tyr	Ser	Tyr	Arg	Gly	Lys	Met	Asn	Arg						
			195				200				205										
Thr	Val	Asn	Gln	His	Ala	Cys	Leu	Tyr	Trp	Asn	Ser	His	Leu	Leu	Leu						
			210				215				220										
Gln	Glu	Asn	Tyr	Asn	Met	Phe	Met	Glu	Asp	Ala	Glu	Thr	His	Gly	Ile						
225				230				235				240									
Gly	Glu	His	Asn	Phe	Cys	Arg	Asn	Pro	Asp	Ala	Asp	Glu	Lys	Pro	Trp						
			245				250				255										
Cys	Phe	Ile	Lys	Val	Thr	Asn	Asp	Lys	Val	Lys	Trp	Glu	Tyr	Cys	Asp						
			260				265				270										
Val	Ser	Ala	Cys	Ser	Ala	Gln	Asp	Val	Ala	Tyr	Pro	Glu	Glu	Ser	Pro						
			275				280				285										
Thr	Glu	Pro	Ser	Thr	Lys	Leu	Pro	Gly	Phe	Asp	Ser	Cys	Gly	Lys	Thr						
			290				295				300										
Glu	Ile	Ala	Glu	Arg	Lys	Ile	Lys	Arg	Ile	Tyr	Gly	Gly	Phe	Lys	Ser						
305				310				315				320									
Thr	Ala	Gly	Lys	His	Pro	Trp	Gln	Ala	Ser	Leu	Gln	Ser	Ser	Leu	Pro						
			325				330				335										
Leu	Thr	Ile	Ser	Met	Pro	Gln	Gly	His	Phe	Cys	Gly	Gly	Ala	Leu	Ile						
			340				345				350										
His	Pro	Cys	Trp	Val	Leu	Thr	Ala	Ala	His	Cys	Thr	Asp	Ile	Lys	Thr						
			355				360				365										
Arg	His	Leu	Lys	Val	Val	Leu	Gly	Asp	Gln	Asp	Leu	Lys	Lys	Glu	Glu						
			370				375				380										
Phe	His	Glu	Gln	Ser	Phe	Arg	Val	Glu	Lys	Ile	Phe	Lys	Tyr	Ser	His						
385				390				395				400									
Tyr	Asn	Glu	Arg	Asp	Glu	Ile	Pro	His	Asn	Asp	Ile	Ala	Leu	Leu	Lys						
			405				410				415										
Leu	Lys	Pro	Val	Asp	Gly	His	Cys	Ala	Leu	Glu	Ser	Lys	Tyr	Val	Lys						
			420				425				430										
Thr	Val	Cys	Leu	Pro	Asp	Gly	Ser	Phe	Pro	Ser	Gly	Ser	Glu	Cys	His						
			435				440				445										
Ile	Ser	Gly	Trp	Gly	Val	Thr	Glu	Thr	Gly	Lys	Gly	Ser	Arg	Gln	Leu						
			450				455				460										
Leu	Asp	Ala	Lys	Val	Lys	Leu	Ile	Ala	Asn	Thr	Leu	Cys	Asn	Ser	Arg						
465				470				475				480									
Gln	Leu	Tyr	Asp	His	Met	Ile	Asp	Asp	Ser	Met	Ile	Cys	Ala	Gly	Asn						
			485				490				495										
Leu	Gln	Lys	Pro	Gly	Gln	Asp	Thr	Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro						
			500				505				510										
Leu	Thr	Cys	Glu	Lys	Asp	Gly	Thr	Tyr	Tyr	Val	Tyr	Gly	Ile	Val	Ser						

	515		520		525										
Trp	Gly	Leu	Glu	Cys	Gly	Lys	Arg	Pro	Gly	Val	Tyr	Thr	Gln	Val	Thr
	530				535				540						
Lys	Phe	Leu	Asn	Trp	Ile	Lys	Ala	Thr	Ile	Lys	Ser	Glu	Ser	Gly	Phe
545					550				555					560	

&lt;210&gt; 4497

&lt;211&gt; 840

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4497

```

nnacgcgtga aacagaaagc agagaaaaag cgactcaaga agaagcgtca aaaggaacgg
60
aagcgacagg agcggtttgga gcagtactgt ggggagccca aggccagcac tacctcagat
120
ggagatgaga gccccccatc cagccctgga aaccagttc agggacagtg tggatgaagaa
180
gaggactcac tggatctatc tagcactttt gtgtctcttg ctttgcgcaa ggttggggat
240
tggccccctca gtgcccgcag agagaaggga ctgaaccagg agccccaagg caggggtctg
300
gccctccaga agatgggtca agaggaagag agccctccaa gagaggagag gcccagcag
360
agtccaaagg catctccggg actgctggca gctgccttac aacagagcca ggaactggca
420
aagttgggta ccagctttgc tcaaatggt ttctaccatg aggccgtggt cctcttcacc
480
caggccttga agtcaaccc ccaggaccac cggttatattg gaaatcgctt cttctgccat
540
gagcggttgg gtcagccagc gtgggcccctg gctgatgccc aggtggccct taccctacgg
600
cctggctggc cccggggcct ctccgcctg ggcaaggcct tgatgggact acagcgcttc
660
agagaggcag ctgctgtgtt tcaggaaact ctgagagggt ggtcccagcc tgacgcagcc
720
cgagagctcc gctcttgctt tctccacctc aactgcagg gtcagcgagg aggaatctgt
780
gcaccgctc tgacacctg ggcctccag ccacttcccc atgctgagct ggcaccctca
840

```

&lt;210&gt; 4498

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4498

Xaa	Arg	Val	Lys	Gln	Lys	Ala	Glu	Lys	Lys	Arg	Leu	Lys	Lys	Lys	Arg
1			5				10			15					
Gln	Lys	Glu	Arg	Lys	Arg	Gln	Glu	Arg	Leu	Glu	Gln	Tyr	Cys	Gly	Glu
		20				25			30						
Pro	Lys	Ala	Ser	Thr	Thr	Ser	Asp	Gly	Asp	Glu	Ser	Pro	Ser	Ser	
	35					40			45						
Pro	Gly	Asn	Pro	Val	Gln	Gly	Gln	Cys	Gly	Glu	Glu	Glu	Asp	Ser	Leu

50	55	60
Asp Leu Ser Ser Thr Phe Val Ser Leu Ala Leu Arg Lys Val Gly Asp		
65	70	75
Trp Pro Leu Ser Ala Arg Arg Glu Lys Gly Leu Asn Gln Glu Pro Gln		80
	85	90
Gly Arg Gly Leu Ala Leu Gln Lys Met Gly Gln Glu Glu Glu Ser Pro		95
	100	105
Pro Arg Glu Glu Arg Pro Gln Gln Ser Pro Lys Ala Ser Pro Gly Leu		110
	115	120
Leu Ala Ala Ala Leu Gln Gln Ser Gln Glu Leu Ala Lys Leu Gly Thr		125
	130	135
Ser Phe Ala Gln Asn Gly Phe Tyr His Glu Ala Val Val Leu Phe Thr		140
145	150	155
Gln Ala Leu Lys Leu Asn Pro Gln Asp His Arg Leu Phe Gly Asn Arg		160
	165	170
Ser Phe Cys His Glu Arg Leu Gly Gln Pro Ala Trp Ala Leu Ala Asp		175
	180	185
Ala Gln Val Ala Leu Thr Leu Arg Pro Gly Trp Pro Arg Gly Leu Phe		190
	195	200
Arg Leu Gly Lys Ala Leu Met Gly Leu Gln Arg Phe Arg Glu Ala Ala		205
	210	215
Ala Val Phe Gln Glu Thr Leu Arg Gly Gly Ser Gln Pro Asp Ala Ala		220
225	230	235
Arg Glu Leu Arg Ser Cys Leu Leu His Leu Thr Leu Gln Gly Gln Arg		240
	245	250
Gly Gly Ile Cys Ala Pro Pro Leu Ser Pro Gly Ala Leu Gln Pro Leu		255
	260	265
Pro His Ala Glu Leu Ala Pro Ser		270
	275	280

&lt;210&gt; 4499

&lt;211&gt; 562

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4499

```

ntcatcacag actatgctgt tcagccacat gtgggcacgg gggcagtga ggtgactcca
60
gctcacagtc ctgccgatgc tgagatgggg gcccgacatg gcttgagccc cttgaatgtc
120
attgcggagg atgggaccat gacctccctc tgcggggact gggtgcaggg tcttcaccgg
180
tttgtggccc gggaaaagat aatgtctgtg ctgagtgaac ggggcctatt ccggggcctc
240
cagaaccacc ccatgggtact gcccatctgc aggtaatctc attttaactc ctttactaag
300
ggctacccca aaagggaatg tatggagctt aagggtgaca ataggatggg ctctgcaccc
360
ctccgtaga atacgagctc cgtgtcggtt ttattcgcta ttgtatcctc agtaccaagg
420
gcctggcatg gcatggggtc ctgtgccctt gggagaagtc acagggccgg aagagcagtg
480
gactcaccct gtctctcttt cagccgttct ggggatgtga tagaatacct gctgaagaac
540

```

cagtggtttg tccgctgcca cg  
562

<210> 4500  
<211> 91  
<212> PRT  
<213> Homo sapiens

<400> 4500  
Xaa Ile Thr Asp Tyr Ala Val Gln Pro His Val Gly Thr Gly Ala Val  
1 5 10 15  
Lys Val Thr Pro Ala His Ser Pro Ala Asp Ala Glu Met Gly Ala Arg  
20 25 30  
His Gly Leu Ser Pro Leu Asn Val Ile Ala Glu Asp Gly Thr Met Thr  
35 40 45  
Ser Leu Cys Gly Asp Trp Leu Gln Gly Leu His Arg Phe Val Ala Arg  
50 55 60  
Glu Lys Ile Met Ser Val Leu Ser Glu Arg Gly Leu Phe Arg Gly Leu  
65 70 75 80  
Gln Asn His Pro Met Val Leu Pro Ile Cys Arg  
85 90

<210> 4501  
<211> 1866  
<212> DNA  
<213> Homo sapiens

<400> 4501  
gggtggataa gacaccggt cccctccaat tcccgtaagc accccttgct ccatcctgcg  
60  
cccccaatacc tcagctagcc cccttcccca cttcttacac tccaaactca gccgggacag  
120  
acctctgctg ccgcccgcac cacgaacgtg tgacgacggc tggaggccaa cagagtcctt  
180  
acaggtggtg ctcacggtaa tgcaccgaca atgagtggct gttttccagt ttctggcctc  
240  
cgctgcctat ctagggacgg caggatggcc gcgcagggcg cgccgcgctt cctcctgacc  
300  
ttcgacttcg acgagactat cgtggacgaa aacagcgacg attcgatcgt gcgcgcgcg  
360  
ccggggccagc ggctcccga gagcctgcga gccacctacc gcgagggctt ctacaacgag  
420  
tacatgcagc gcgtcttcaa gtacctgggc gagcagggcg tgcggccgcg ggacctgagc  
480  
gccatctacg aagccatccc tttgtcgcca ggcagtagcg acctgctgca gtttgtggca  
540  
aaacagggcg cctgcttcga ggtgattctc atctccgatg ccaacacctt tggcgtggag  
600  
agctcgctgc gcgcccgcg ccaccacagc ctgttcgcgc gcacccctcag caaccgctcg  
660  
gggcccggatg cgcggggact gctggctctg cggccgttcc acacacacag ctgcgcgcgc  
720  
tgccccgcca acatgtgcaa gcacaaggtg ctcagcgact acctgcgcga gcggggccac  
780

gacggcgtgc acttcgagcg cctcttctac gtgggtgatg gtgcaaatga cttctgcccc  
 840  
 atggggctgc tggcgggagg cgacgtggcc ttcccgcgcc ggggtaccc catgcaccgc  
 900  
 ctcattcagg aggccagaa ggccgagccc agctcgttcc ggcgcagcgt ggtgccctgg  
 960  
 gaaacggctg cagatgtgcg cctccacctg caacagggtg tgaagtcgtg ctgagtctgg  
 1020  
 ccgcctgcag ggggggtaccc gggccaacgg cggagggggc ggggaaggga gattcggcaa  
 1080  
 agacagcttt actactccct ttccctttg gctttgttat gtccctctgg gaatttctgg  
 1140  
 aatctcgtat ttgggggctt ggggaagggg gtcagagcc gtccctatct attcagttaa  
 1200  
 cccacctcgg ctgcctcccc cactccactg tgcacgggtg agttctggag tctgacccat  
 1260  
 cgcgggggtg cgcgcaaacc ttggaaggca gcagtatttc ctggtcctcc caactgggag  
 1320  
 gaaggggccc ccccggcagg tgagagaagg aacatctccc gccgctgtaa cttgttgctt  
 1380  
 cgggctgcgt gaccgcccct cctccagtct actgtggagg gaaccagga tcctgaaatt  
 1440  
 ctccctggccg caagaactcc ccacagaggc agaagagggt ctccacctat ggccccaggc  
 1500  
 ctttgcgac ttgcttcacc caccgcgacc ccacactatt tctgtgctgt ccacactctc  
 1560  
 ttgcctcccg acccccgcac tcccttctag caccccc aaa ggaaaagcca gaggaacaat  
 1620  
 cgcctcctgg tgggtggtacg aggtagcgca ccgtccggct cgggtccgga cagccagtaa  
 1680  
 cctcgagag agtgacgggtg tctccttgca tcccagcctc gtctatgcag caagagacca  
 1740  
 gggacttcac caaagtcacc ctgcggggct gggccttcca cgcaccccc ccacccccca  
 1800  
 tggaacagaa agccatgttt ttaagcagaa ccagcgaaac ccaagcccct ccttctctg  
 1860  
 gtgttt  
 1866

&lt;210&gt; 4502

&lt;211&gt; 267

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4502

Met	Ser	Gly	Cys	Phe	Pro	Val	Ser	Gly	Leu	Arg	Cys	Leu	Ser	Arg	Asp
1				5					10					15	
Gly	Arg	Met	Ala	Ala	Gln	Gly	Ala	Pro	Arg	Phe	Leu	Leu	Thr	Phe	Asp
			20					25					30		
Phe	Asp	Glu	Thr	Ile	Val	Asp	Glu	Asn	Ser	Asp	Asp	Ser	Ile	Val	Arg
		35					40					45			
Ala	Ala	Pro	Gly	Gln	Arg	Leu	Pro	Glu	Ser	Leu	Arg	Ala	Thr	Tyr	Arg
	50					55					60				
Glu	Gly	Phe	Tyr	Asn	Glu	Tyr	Met	Gln	Arg	Val	Phe	Lys	Tyr	Leu	Gly



65					70					75				80	
Glu	Gln	Gly	Val	Arg	Pro	Arg	Asp	Leu	Ser	Ala	Ile	Tyr	Glu	Ala	Ile
				85					90					95	
Pro	Leu	Ser	Pro	Gly	Met	Ser	Asp	Leu	Leu	Gln	Phe	Val	Ala	Lys	Gln
			100					105					110		
Gly	Ala	Cys	Phe	Glu	Val	Ile	Leu	Ile	Ser	Asp	Ala	Asn	Thr	Phe	Gly
		115					120					125			
Val	Glu	Ser	Ser	Leu	Arg	Ala	Ala	Gly	His	His	Ser	Leu	Phe	Arg	Arg
	130					135					140				
Ile	Leu	Ser	Asn	Pro	Ser	Gly	Pro	Asp	Ala	Arg	Gly	Leu	Leu	Ala	Leu
145				150						155				160	
Arg	Pro	Phe	His	Thr	His	Ser	Cys	Ala	Arg	Cys	Pro	Ala	Asn	Met	Cys
			165						170					175	
Lys	His	Lys	Val	Leu	Ser	Asp	Tyr	Leu	Arg	Glu	Arg	Ala	His	Asp	Gly
			180					185					190		
Val	His	Phe	Glu	Arg	Leu	Phe	Tyr	Val	Gly	Asp	Gly	Ala	Asn	Asp	Phe
		195					200					205			
Cys	Pro	Met	Gly	Leu	Leu	Ala	Gly	Gly	Asp	Val	Ala	Phe	Pro	Arg	Arg
	210					215					220				
Gly	Tyr	Pro	Met	His	Arg	Leu	Ile	Gln	Glu	Ala	Gln	Lys	Ala	Glu	Pro
225				230						235				240	
Ser	Ser	Phe	Arg	Ala	Ser	Val	Val	Pro	Trp	Glu	Thr	Ala	Ala	Asp	Val
			245						250					255	
Arg	Leu	His	Leu	Gln	Gln	Val	Leu	Lys	Ser	Cys					
			260					265							

&lt;210&gt; 4503

&lt;211&gt; 1983

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4503

ncggaaggca agtgaaaatg ggtgtccctg ctgcctctta gcaacaagag ggggtcaagtg  
 60  
 acacaaccag ctgactcccc tagaggaaga cactgtggag gccagttctg gagctattgc  
 120  
 agcctcgggt gcccggccgg ggacccgagc cgaaaagtta tcgtcagaat gtcgggcaaa  
 180  
 gaccgaattg aaatctttcc ctgcgcaatg gcacagacca tcatgaaggc tcgattaaag  
 240  
 ggagcacaga caggtcgaaa cctcctgaag aaaaaatctg atgccttaac tcttcgattt  
 300  
 cgacagatcc taaagaagat aatagagact aaaatgttga tgggcgaagt gatgagagaa  
 360  
 gctgcctttt cactagctga agccaagttc acagcaggtg acttcagcac tacagttatc  
 420  
 caaatgtca ataaagcgca agtgaagatt cgagcgaaga aagataatgt agcaggtgtt  
 480  
 actttgccag tatttgaaca ttaccatgaa ggaactgaca gttatgaact gactggttta  
 540  
 gccagaggtg gggaacagtt ggctaaatta aagaggaatt atgccaaagc agtggaaacta  
 600  
 ctggtggaac tagcttctct gcagacttct tttgttactt tggatgaagc tattaagata  
 660

accaacaggc gtgtaaatgc cattgaacat ggtgagtatg tcatcattcc cgggattgaa  
 720  
 cgtactcttg cttatatcat cacagagctg gatgagagag agcgagaaga gttctatagg  
 780  
 ttaaagaaaa tacaagagaa gaaaaagatt ctaaaggaaa aatctgagaa ggacttggag  
 840  
 caaaggagag cagctggaga ggtgttggag cctgctaate ttctggctga agagaaggac  
 900  
 gaggatcttc tatttgaata atctttcctg ttctggttct ttgagaaacc ctaacactgg  
 960  
 cttcatttta attcacagtg tgtaggtttg atttgtgtgg ctatttattt tttggcctaa  
 1020  
 gaatttcact ggttgtaaaa ttacaccta tgtctattta tgggattact tttgcagaat  
 1080  
 cataatttag caaccattta tcatggatga aagagatctg taaaacctgc ccaggaactt  
 1140  
 acagaattta ctttgcagaa gcgttatcat actccattta catctgtgtt acacgtgatc  
 1200  
 tgcttaccaa gcatattagg aaatacctct taggaagcat tagcggcttc aggccaatta  
 1260  
 ctgtggagca gctttcattc ctacccactt gcaaaccttg gcgctgttgt ctgagattgc  
 1320  
 tgcagccatt cttgttacca tgggtacttct caaactttgt gaaaacctgc acttttcctt  
 1380  
 gcatgacagg ttctgtctt gtctgtcatg ggagccattc tgccaattta aatgcgactg  
 1440  
 tggataaac agtaaaatga tttaaaagta agtcattccg tttttattaa tttactgtta  
 1500  
 agtcattgtc tcatgtcag atcagtagtg tcagccagag ctttctctgc agacatgtag  
 1560  
 gaagtgggta gctatttttc cactccatg tattagagtt ttacaaaaag gcttactttt  
 1620  
 gagacaactg ttgcattttg ggtactaat aatgattgc cgatgagtta tgagggcatt  
 1680  
 ataatacttc cttatttgct aattaagaaa ataactagtt cctatttttag agtaagaaat  
 1740  
 aaggtaactt tttactattt ataagtata aaaacttgct ttcatatatg aagatgaagc  
 1800  
 atttgagtgg ccacatcagg tgtctgaggt ttttagtact gtttgatttg gcatgagcca  
 1860  
 tccatgggga ctcatcttt ctgcaccca tttccaggca tttttgacat gattagccat  
 1920  
 ggaataatgt ttagttctga aattgtgaca ctgtctttat taatactgta ttttaatcaa  
 1980  
 gtg  
 1983

&lt;210&gt; 4504

&lt;211&gt; 250

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

<400> 4504Ser Gly Lys Asp Arg Ile Glu Ile Phe Pro Ser Arg Met Ala Gln  
 1 5 10 15

Thr Ile Met Lys Ala Arg Leu Lys Gly Ala Gln Thr Gly Arg Asn Leu  
 20 25 30  
 Leu Lys Lys Lys Ser Asp Ala Leu Thr Leu Arg Phe Arg Gln Ile Leu  
 35 40 45  
 Lys Lys Ile Ile Glu Thr Lys Met Leu Met Gly Glu Val Met Arg Glu  
 50 55 60  
 Ala Ala Phe Ser Leu Ala Glu Ala Lys Phe Thr Ala Gly Asp Phe Ser  
 65 70 75 80  
 Thr Thr Val Ile Gln Asn Val Asn Lys Ala Gln Val Lys Ile Arg Ala  
 85 90 95  
 Lys Lys Asp Asn Val Ala Gly Val Thr Leu Pro Val Phe Glu His Tyr  
 100 105 110  
 His Glu Gly Thr Asp Ser Tyr Glu Leu Thr Gly Leu Ala Arg Gly Gly  
 115 120 125  
 Glu Gln Leu Ala Lys Leu Lys Arg Asn Tyr Ala Lys Ala Val Glu Leu  
 130 135 140  
 Leu Val Glu Leu Ala Ser Leu Gln Thr Ser Phe Val Thr Leu Asp Glu  
 145 150 155 160  
 Ala Ile Lys Ile Thr Asn Arg Arg Val Asn Ala Ile Glu His Gly Glu  
 165 170 175  
 Tyr Val Ile Ile Pro Arg Ile Glu Arg Thr Leu Ala Tyr Ile Ile Thr  
 180 185 190  
 Glu Leu Asp Glu Arg Glu Arg Glu Glu Phe Tyr Arg Leu Lys Lys Ile  
 195 200 205  
 Gln Glu Lys Lys Lys Ile Leu Lys Glu Lys Ser Glu Lys Asp Leu Glu  
 210 215 220  
 Gln Arg Arg Ala Ala Gly Glu Val Leu Glu Pro Ala Asn Leu Leu Ala  
 225 230 235 240  
 Glu Glu Lys Asp Glu Asp Leu Leu Phe Glu  
 245 250

&lt;210&gt; 4505

&lt;211&gt; 379

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4505

gaattcacca agaagatgcc tggaggagag ccaaggctga agatgctgcc gacccacagt  
 60  
 ccgggctctc tagagcatgt gttacagtca aatcagagac agaaagagcg gagaagacag  
 120  
 tgggtggcttt ggctgtccag cctcagtaat cagatacatc ctacaccttc agcacagggc  
 180  
 caggcagcct tgaggcaaac atgtcccat ctcaggggaat caggaccatt gagtgtgagg  
 240  
 catgtggccc tcctggccct ggagacagca tcacaccct cagggcccca cacgaaccag  
 300  
 gcccctagcc ctgcaacgtc tcctaaatgc cctcagagc cagcaactcc atcttcaca  
 360  
 gattcactaa tcaagatct  
 379

&lt;210&gt; 4506

&lt;211&gt; 121

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4506

```

Met Pro Gly Gly Glu Pro Arg Leu Lys Met Leu Pro Thr Pro Val Pro
 1           5           10           15
Gly Ser Leu Glu His Val Leu Gln Ser Asn Gln Arg Gln Lys Glu Arg
          20           25           30
Arg Arg Gln Trp Trp Leu Trp Leu Ser Ser Leu Ser Asn Gln Ile His
          35           40           45
Pro Thr Pro Ser Ala Gln Gly Gln Ala Ala Leu Arg Gln Thr Cys Pro
          50           55           60
His Leu Arg Glu Ser Gly Pro Leu Ser Val Arg His Val Ala Leu Leu
65           70           75           80
Ala Leu Glu Thr Ala Ser His Pro Ser Gly Pro His Thr Asn Gln Ala
          85           90           95
Pro Ser Pro Ala Thr Ser Pro Lys Cys Pro Ser Glu Pro Ala Thr Pro
          100          105          110
Ser Ser Thr Asp Ser Leu Ile Lys Ile
          115          120

```

&lt;210&gt; 4507

&lt;211&gt; 3664

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4507

```

agcacttcct taaaaagaaa agtctagtaa cgaggccatc ccggcgtcag aagcggtcag
60
gctggggtttg acaagatcag aaccgaaatg actacgaaag tgggaataca aggaggtgca
120
tttactacac attaacgttc agcgaactcc cacaatcttt aaacacacag ccattggaag
180
gacgatcttg agcaggaagg gtttttactc gttgtggtgc gctgtcttcc cgcttgcgtc
240
agggacctgc ccgactcagt ggccgccatg gcatcagatg aaggcaaact ttttgttgga
300
gggctgagtt ttgacaccaa tgagcagtcg ctggagcagg tcttctcaaa gtacggacag
360
atctctgaag tgggtggttgt gaaagacagg gagaccaga gatctcgggg atttgggttt
420
gtcacctttg agaacattga cgacgctaag gatgccatga tggccatgaa tgggaagtct
480
gtagatggac ggcagatccg agtagaccag gcaggcaagt cgtcagacaa ccgatcccgt
540
gggtaccgtg gtggctctgc cgggggccgg ggcttcttcc gtgggggccg aggacggggc
600
cgtgggttct ctagaggagg aggggaccga ggctatgggg ggaaccggtt cgagtccagg
660
agtgggggct acggaggctc cagagactac tatagcagcc ggagtcagag tgggtggctac
720
agtgaccgga gctcggggcg gtcctacaga gacagttacg acagttacgc tacacacaac
780

```

gagtaaaaac ccttcctgct caagatcgtc cttccaatgg ctgtgtgttt aaagattgtg  
840  
ggagcttcgc tgaacgttaa tgtgtagtaa atgcacctcc ttgtattccc actttcgtag  
900  
tcatttcggt tctgatcttg tcaaaccag cctgaccgct tctgacgccg ggatggcctc  
960  
gttactagac ttttcttttt aaggaagtgc tgtttttttt tgagggtttt caaaacattt  
1020  
tgaaaagcat ttactttttt gaccacgagc catgagtttt caaaaaaatc ggggggttgtg  
1080  
tgggtttttg gtttttgttt tagtttttgg ttgcgttgcc tttttttttt tagtgggggtt  
1140  
ggcccatga agtgggtgcc ccactcactt ctctgagatc gaacggactg tgaatccgct  
1200  
ctttgtcgga agctgagcaa gctgtggctt ttttccaact ccgtgtgacg tttctgagt  
1260  
tagtgtggtg ggaccccgcc ggggtgtggca gcaactgccc tggagcccca gccctgcgt  
1320  
ccatctgtgc tgtgcgcccc acagtagacg tgcagacgct cctgagaggt tcttgaagat  
1380  
gtttatttat attgtccttt tttactggaa gacgtacgca tactccatcg atgtgtatt  
1440  
tgcagtggct gaggaattct tgtacgcagt tttctttggc tttacgaagc cgattaaaag  
1500  
accgtgtgaa atgaacctg ctctgacaat tcccttgcat tgcaccacac actccttgct  
1560  
gcgggctcct gcagccagac ctgagcagag agagaagggtg gagaagcagc ggggtctgcaa  
1620  
gccttcctg gggcctgcag agctagaaaag ggaggccag cagactggcg ctggtcaggg  
1680  
taggggagcc aggcggggga cgggagcggg cagctcaggc ctgagggcag ccctgggagg  
1740  
cttctggcag tgggtggccag agggctggac tgtgcgggca gcttagcagg gacagtggac  
1800  
gtgcacctga cgctgacctg gactgcctca gtctagaagc aggccagaga gcagaggcac  
1860  
gtggcatccc agggcgacct cagacggcca gccggttagc tagttctgct gttgcttcac  
1920  
gagttctgag cattctctgc tagcctatgg aagctgcagc cctcggagga cagaagtgtt  
1980  
gtgcgccccaa cagaaccctc tgagacgcaa gctgctccct tggctagctc atatgtggaa  
2040  
atagccctgt aattcgagggt aactccttcc gctcgtgtcc acatccctct tgttgagagc  
2100  
tactgaaag tcatgtgccc ggggaatgtt cctgtgactg ttttttgttt ttcctttttt  
2160  
ttttaacttt gtttttgttt ttttcaatta agctggaact aaagtcaggc ccagccatta  
2220  
cgctccccac gtgcagccag gtgcagcctg ggcccagtca tgccctggctc atagatgaaa  
2280  
tcccttaagc aggattgaag accagtgaac gccccgcct tttggatttt ttgctcaatt  
2340  
gaccgtcttt tccagacctc ttttaagtcac actcttaact tagctttctc tgatgtctgt  
2400

tgccgccatt agtttttttc tagagcccac actggcccac atagctccat cccatacggg  
2460  
tagctggctc cagctgcgcc aaggtgcaga cccgccctgg gcatgctggc ctgtgacgga  
2520  
gcctgaggtc acagccccct gactagcctg agaccttctt aggggctgtg gctgtttccg  
2580  
gggaggccgg gaggggcagc tgtgagccct gtggaggacg ttgggagtaa cgctgctttg  
2640  
ctttggcagg ttgaaggggc ccggccagga ctcggggaag ggtggcctga gagcagcgat  
2700  
gacctctggg gtcactgtcc caggagggac ttcacctgga acaagagctg gaggcagccg  
2760  
cttgcccagg aggcttgtcc cctgaggcgc ttcgccagtg aggtgcgggc tcagggcctc  
2820  
gagtctctcc tggagcacgg gctgcggtgc gccggcagct tacggggcgg ccagtccttg  
2880  
cccacaacga tgtggagccc tgtgaaagtc ggattcgaat aaagggccac gtgtgcaccc  
2940  
agaaagccga gtctgtggtt cagggggggtc tgtcggcgga gcggggccac tggaagaaaa  
3000  
gcctgcggac ctcggttcag cgcacgagta ggaccgcaca ggaagactg caagggtcat  
3060  
tgtccgagca gtgaccgcgg ggggctcgcc actgaggggg ttcgcagcgc ggagactcca  
3120  
gtctcgcggg atctgaggcg cactcggctt cgagggagcg gcggccgcgc agccgctgtc  
3180  
aggccccgtc ttggggccgag tcccgggttc cctgtagcag gctggggagc ggggcgccac  
3240  
cttcctgggc cctggacgtg gccgacgcgt tctcagtgtc cgtgaggccg gggcaggagt  
3300  
ggcgggggtc gccccgaagt ggggtgggaat gagcggcccc aggtcctgaa gtcgggggtc  
3360  
gccccgtctc cccgctgcca gcccgatttc ctcggaagcc gcgaccccc acgctgggct  
3420  
ggcagttctg ggetctgccg gctgcgcctt gccgggactc ccacgggcgg gctccgggcc  
3480  
tccgtcctga tcccttggag cgggtcgacg aagcaagttc cgcggcgggc gcgcggggca  
3540  
ctgtgggtag cgccgggggt caccaggcgg aaggggggccc cggcgtcaag ctccgcctcc  
3600  
gcgccccatt ggctggcatc acctccgcgc gcctgactga cagcgcgc at aggggcgtgg  
3660  
cgcc  
3664

&lt;210&gt; 4508

&lt;211&gt; 172

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4508

Met	Ala	Ser	Asp	Glu	Gly	Lys	Leu	Phe	Val	Gly	Gly	Leu	Ser	Phe	Asp
1				5			10					15			
Thr	Asn	Glu	Gln	Ser	Leu	Glu	Gln	Val	Phe	Ser	Lys	Tyr	Gly	Gln	Ile

```
<210> 4509
<211> 11680
<212> DNA
<213> Homo sapiens
```

```

<400> 4509
nncagcagtg attccagcag tagttcaagt gatgattctc cagctcgatc agttcagttc
60
gcagcagtc ccacccacac ttcccagttg ctttcatctc tggaaaaaga tgagccccgt
120
aaaagttttg gcatcaaggt ccagaatctt ccagtacgct ctacagatac aagccttaaa
180
gatggccttt tccatgaatt taagaaattt ggaaaagtaa cttcagtgca gatacatgga
240
acttcagaag agaggtatgg tctggtattc tttcggcagc aagaggacca agaaaaagcc
300
ttgactgcat caaaaggaaa acttttcttt ggcatgcaga ttgaagtaac agcatggata
360
ggtccagaaa cagaaagtga aaatgaattt cgccccttgg atgaaaggat agatgaattt
420
caccaccaag caacaagaac tctctttatt ggcaaccttg aaaaaaccac tacttaccat
480
gaccttcgca acatcttcca gcgctttgga gaaattgtgg atattgacat taagaaagta
540
aatggagttc ctcagtatgc gtttctgcaa tactgtgata ttgctagcgt ttgtaaagct
600
attaagaaga tggatgggga atatcttggga aataatcgcc tcaagctggg ttttggaaa
660
agcatgccta caaactgcgt gtggctagat gggctttctt cgaatgtgtc agatcagtat
720
ttaacacgac atttctgccg atatgggcct gtggtaaagg tgggtgtttga ccgcttaaaa
780
ggcatggccc tggttctcta caatgaaatt gaatatgcac aagcagctgt aaaagagacc
840

```

aaagggagga aaatcgggtgg gaataaaaatt aaggtggatt ttgcaaatacg ggaaagtcag  
900  
ctggcttttt atcactgcat ggagaaatct ggtcaagaca tcagagactt ttatgaaatg  
960  
ttagccgaaa gaagagagga acgaagggca tcctacgact ataaccaaga tcgtacatat  
1020  
tatgagagtg ttcgaactcc aggcaattat cctgaggatt ccaggcgaggga ctatccagct  
1080  
cgagggagag agttttattc agaatgggaa acttaccaag gagactacta tgaatcacga  
1140  
tactacgatg atcctcggga atacagggat tacaggaatg atccttatga acaagatatt  
1200  
agggaatata gttacaggca aagggaacga gaaagagaac gtgaaagatt tgagtctgac  
1260  
cgggacagag accatgagag gaggccgatt gaacgaagtc aaagtcctgt tcacttgcca  
1320  
cgtccacaga gtccctggagc gtctccctct caggcagaga gggtgccgag tgattctgag  
1380  
aggaggcttt acagccgatc ctacagaccgg agtggaagct gtagctcact ctcccctcca  
1440  
agatatgaga aactggacaa gtctcgtttg gagcgctata caaaaaatga aaagacagat  
1500  
aaagaacgaa cttttgatcc ggagagagtg gagagagaga gacgcttaat acggaaggaa  
1560  
aaagtggaaa aggacaaaac tgacaagcag aaacgcaaag gaaagggttca ctcccctagt  
1620  
tctcagctct cagaaacgga ccaagaaaat gagcgagagc aaagccctga aaagcccagg  
1680  
agttgtaata aactgagcag agagaaagct gacaaagagg gaatagcgaa aaaccgcctg  
1740  
gaactcatgc cttgcgtggt tttgactcga gtgaaagaga aagaggggaaa ggtcattgac  
1800  
cacactcctg tggaaaagtt gaaagccaag cttgataatg acactgtcaa atcttctgcc  
1860  
ctggaccaga aacttcaggt ctctcagacg gagcctgcaa aatctgactt gtctaaactg  
1920  
gaatcagtta gaatgaaagt accaaaggaa aaggggcttt caagccatgt tgaagtgggtg  
1980  
gagaaggaag gcaggcttaa agccaggaag cacctcaagc ctgagcagcc tgcagatggg  
2040  
gtaagtgtg tggatctgga gaagctggaa gccaggaaaa ggcgctttgc agattccaat  
2100  
ttaaaagcag aaaagcaaaa accagaggtc aagaaaagca gtccagagat ggaggatgct  
2160  
cgcgtgcttt caaaaaagca gcctgacgtg tcctctagag aggtcattct gctgagggaa  
2220  
ggagaggctg aaagaaagcc tgtgaggaaa gaaattctta aaagagaatc taaaaaaatc  
2280  
aaactggaca gacttaatac tgttgccagc cccaagact gtcaggagct tgccagtatt  
2340  
tctgttgggt ctggctcaag gccagctca gacctacaag caagactggg agaactagca  
2400  
ggtgaatctg tggaaaatca agaagtccaa tcaaaaaagc ccattccctc aaaaccacag  
2460



ctcaaacagc tgcaggtatt agatgatcaa ggaccagaga gagaagacgt taggaaaaac  
2520  
tattgcagtc ttcgtgatga aacacctgaa cgtaaatacag gccaagagaa atcacattca  
2580  
gtaaatactg aagaaaaaat tggcattgac atcgatcaca cgcagagtta ccgaaaacaa  
2640  
atggaacaga gtcgtaggaa acagcagatg gaaatggaaa tagccaagtc tgagaagttt  
2700  
ggcagtccta aaaaagatgt agatgaatat gaaagacgta gcctcgttca cgaggtaggc  
2760  
aaacccccctc aagatgtcac tgatgactct cctcctagca aaaagaaaag gatggatcat  
2820  
gtcgattttg atatctgcac caagcgagaa cggaattaca gaagttcacg ccaaatcagc  
2880  
gaagattctg aaaggactgg tggttctccc agtgtccgac atggttcctt ccatgaagat  
2940  
gaggatccca taggctcccc taggctactg tcagtaaaaag ggtctcctaa agtagatgaa  
3000  
aaagtcctcc cctatttctaa cataacagtc agggaagagt ctttaaaatt taatccttat  
3060  
gattctagca ggagagaaca gatggcagat atggccaaaa taaaactatc tgtcttgaat  
3120  
tctgaagatg aactaaatcg ttgggactct cagatgaaac aggatgctgg cagatttgat  
3180  
gtgagtttcc caaacagcat aattaagaga gatagccttc gaaaaaggtc tgtacgagat  
3240  
ctggaacctg gtgaggtgcc ttctgattct gacgaagatg gtgaacacaa atccactca  
3300  
cccagagcct ctgcattata tgaaagtctc cgattgtctt ttttattgag ggacagagaa  
3360  
gacaagctac gtgagcgaga tgaaagactc tctagttctt tagaaaggaa caaatTTTtac  
3420  
tcttttgcac tggataagac aatcacacca gacactaaag ctttgcttga aagagctaaa  
3480  
tcctctctt catctcgtga agaaaattgg tcttttcttg attgggactc ccgatttgca  
3540  
aattttcgaa acaacaaaga taaagaaaag gttgactctg ctccaagacc tattccatcc  
3600  
tggtacatga aaaagaagaa aattaggact gattcagaag ggaaaatgga tgataagaaa  
3660  
gaggaccata aagaagaaga gcaagagagg caggaattgt ttgcttctcg ttttttacac  
3720  
agctcaatct ttgaacaaga ttccaagcga ttgcagcatc tagagagaaa agaggaagat  
3780  
tctgacttca tttctggtag gatctatggg aagcagacat ctgagggagc aaacagcaca  
3840  
actgattcca ttcaagaacc agtagttctg ttccatagca gatttatgga gtcacacgg  
3900  
atgcaacaga aaaaaaaaga aaaagaccag aaacccaaag aggttgagaa acaggaagat  
3960  
acagagaatc atcccaaaac ccagaaatct gctcctgaga ataaagattc agaactgaaa  
4020  
actccacctt ccgttggggc tccaagtgtc acagtcgtaa ctctagaatc agcccatca  
4080

gcactagaga agaccactgg tgacaaaacg gtagaggcgc ctttggtaac agaagagaag  
4140  
actgtggagc cagctaccgt ctcagaagaa gcaaagcctg catctgaacc tgctcctgcc  
4200  
cctgtggaac agctggaaca agtagacctg cccccaggag cagaccccg a taaagaagct  
4260  
gccatgatgc ctgcggtgt tgaggaaggt tcatcaggtg accagccgcc ttatctggat  
4320  
gccaagcctc caactcccgg ggcctcgttt tcccaggcag agagcaacgt agatccagag  
4380  
cctgacagta cccagccact ttcaaaacca gctcagaagt ctgaggaagc caatgagcca  
4440  
aaggccgaaa agccagacgc cactgcagat gctgagcctg atgcaaacca gaaagccgaa  
4500  
gctgctcctg agtctcagcc cccagcttct gaagatttag aggttgatcc tccagttgct  
4560  
gcaaaggata aaaagccaaa caaaagcaag cgttcaaaga ccctgttca ggcagctgca  
4620  
gtgagtatcg tggagaagcc cgtcacaagg aagagtgaga ggatagaccg ggaaaaactc  
4680  
aagcgggtcca attctcctcg gggagaagca cagaagcttt tggaattgaa gatggaggca  
4740  
gagaagatta caaggactgc ttctaaaaac tctgctgcag accttgaaca tcccgaacca  
4800  
agtttgcctc tcagccgaac aaggcgccgg aatgtaagga gcgtctatgc aaccatgggt  
4860  
gaccatgaaa accgctctcc tgtcaaagag cccgttgagc aaccaagagt gaccagaaag  
4920  
agattggagc gagagcttca ggaggctgca gcggttccca ccaccctcg gaggggaagg  
4980  
cctccaaaaga cacgccggcg agccgatgaa gaggaggaga acgaggccaa ggaacctgca  
5040  
gaaacactca agccacctga gggatggcgg tcgccaaggt cccagaaaac tgcagctggt  
5100  
gggtggacccc aagggaaaaaa gggaaaaaat gaaccgaagg tggatgctac acgtcctgag  
5160  
gccaccactg aggtgggccc ccaaataaggc gtgaaagaga gctccatgga acccaaggct  
5220  
gctgaggagg aggcaggag tgaacagaaa cgtgacagaa aagatgctgg cacagacaaa  
5280  
aaccctcctg aaaccgcccc tgttgaagtt gtagagaaaa aaccggcccc tgaaaaaac  
5340  
tccaaatcaa agagaggaag atctcgaaac tccaggttag cagtggacaa atctgcaagt  
5400  
ctgaaaaatg tggatgctgc tgtcagtcct aggggggctg cagcacaggc aggggagagg  
5460  
gaatctgggg tgggtggcagt ctcccctgag aaaagtgaga gtccccaaaa ggaggatggt  
5520  
ttatcatccc agttgaaaag tgatccagtt gatccagaca aggaaccaga gaaagaagac  
5580  
gtgtctgcct ctgggcccgc cccagaagcc acccagttag ccaagcagat ggagctggag  
5640  
caggccgtgg aacacatcgc aaagctcgct gaggcctctg cctctgctgc ctataaggca  
5700

gatgcaccag agggccttgc cccagaggac agggacaagc ctgcacacca agcaagtga  
5760  
acagagctgg ctgcggccat cggctccatc atcaatgaca tttctgggga gccagaaaac  
5820  
ttcccagcac ctccacctta tcctggagaa tcccagacag atctgcaacc ccccgaggt  
5880  
gcacaggcgc tgcagccttc tgaggaagga atggagacag atgaggctgt atctggcatc  
5940  
ctggaaactg aggctgctac agaattcttct aggcctccag tcaatgctcc tgacccctca  
6000  
gccggcccaa cagataccaa ggaagccaga ggaaatagca gtgaaacctc acactcagt  
6060  
ccagaagcca aagggtctaa agaagtggaa gtcactcttg ttcggaaaga caaagggcgc  
6120  
cagaaaacaa cccgatcacg ccgcaagcga aacacaaaca agaaagtggg ggctcctgta  
6180  
gagagccatg tccctgaatc caaccaagct caagggtgaga gtcctgctgc aaatgagggg  
6240  
acaacagtac agcaccccgag agccccacag gaagaaaagc agagtggaga accccattcc  
6300  
actcctctc agtcatgtac ttctgacct agcaagattc cctccacaga gaattcgtcc  
6360  
caagaaatca gtgttgagga aaggactcca accaaagcat ctgtgcccc agaccttccc  
6420  
ccacctcccc agccagcacc ggtggatgag gagcctcaag ccaggttcag ggtgcattcc  
6480  
atcattgaaa gtgaccgggt gacccccacc agcgatccaa gcatccccat acccacactg  
6540  
ccttctgtaa ctgcagcaaa gctctcacct cctgtcgcct ctgggggggat cccacaccag  
6600  
agcccccta ctaagggtgac agagtggatc acaaggcagg aggagccacg ggctcagtct  
6660  
actccatctc cagctcttcc cccagacaca aaggcctctg atgttgacac cagctccagc  
6720  
accctgagga agattctcat ggacccaag tatgtgtctg ccacaagtgt cacttccaca  
6780  
agtgtcacca cagccattgc agagcctgtc agtgetgccc cttgcctaca tgaggccccg  
6840  
cccccgccag ttgactctaa aaagccttta gaagaaaaaa cagcacctcc agtgacaaac  
6900  
aactctgaga tacaagcctc ggagggtgctg gttagctgctg acaaggaaaa ggtgggtcca  
6960  
gtcattgtc ccaaaattac ctctgttatt agccggatgc ctgtcagcat tgacctggaa  
7020  
aattcacaga agataacctt ggcaaaacca gtcctcaaa ccctcactgg tctggtgagc  
7080  
gcactcactg gcctggtgaa cgtctccctg gtcccgggtga atgccctgaa aggccccgtg  
7140  
aagggtcag tgaccacact gaaaagtttg gtgagcacc ctgctgggcc cgtgaacgtc  
7200  
ctgaaagggc ctgtgaatgt tcttacgggg ccagtgaatg ttctcaccac tccagtgaac  
7260  
gccacggtgg gcacagtga tgccgcccc ggcacagtca atgccgctgc gagtgcagt  
7320

aatgccacag caagtgcagt gaccgtcaca gcggggtgcgg ttactgctgc atctgggtggt  
7380  
gtaacggcca caacaggcac ggtgacaatg gcaggggcag tgattgcgcc gtcaacaaag  
7440  
tgcaaacaga gagcgagtgc taatgaaaac agtcggttcc acccagggtc catgcctgtg  
7500  
atcgacgacg gtccggcaga cgcgggctca ggggcggggc tgcgtgtgaa cacttctgaa  
7560  
gggggttgctg tcctgagtta ctcagggcag aagaccgaag gccacagcg gatcagcgcc  
7620  
aagatcagcc agatcccccc ggccagtgcg atggacattg aatttcagca gtcagtgtcc  
7680  
aagtcccagg tcaaacctga ttctgtcaca gcatcgagc ctccatcaa aggcctcaa  
7740  
gctcctgcag gctatgcgaa cgtggccacc cattccacgt tggtagtgac cgcccagaca  
7800  
tataatgcct ctctgtgat ttcgtctgtg aaggccgata ggccatcctt ggagaagccc  
7860  
gagcccattc acctctcggg gtccacgcct gtcaccagc gaggcacagt gaaggttctc  
7920  
acccagggga tcaacacacc ccctgtgctg gttcacaacc agctggctct caccccaagc  
7980  
attgtcacca caaacaagaa gcttgctgac cccgtcacc ttaaaatcga gaccaaggtc  
8040  
cttcagccgg ccaacctggg gtccacgctc acgccccacc acctcctgc tctgcccagc  
8100  
aaactgccta cagaagtcaa ccatgtcccc tcggggccca gcatcccagc agatcgaact  
8160  
gtctcccatt tggcagctgc aaagctagat gctcattctc ctgaccaag tggaccggg  
8220  
ccatcctcat tcccaggggc aagccacccc agcagtactg catctacggc gctctccacc  
8280  
aacgccacag tcatgctggc tgcaggcatc ccagtgtccc agttcatctc cagcatccac  
8340  
ccagagcagt ctgtcatcat gccaccccac agcatcacc agactgtgtc cctgagccac  
8400  
ctctcccagg gcgaggtagg aatgaacact cccacgctgc ccagtatcac ctacagcatc  
8460  
cggccagaag cgcttcactc tcctcgggct ccgctgcagc cccagcaaata agaggtcagg  
8520  
gccccacagc gtgccagcac cccgcagcca gccccagctg gtgtgcctgc actggcctcc  
8580  
cagcaccctc ccgaggagga agtgcattat caccttctctg tcgctcgagc cacagccct  
8640  
gtgcagtcag aggtactagt catgcagtct gtagccgac tgcacccta tactgtgcca  
8700  
cgggatgtga ggatcatggt gcatccacat gtgacggcag tcagcgagca gccaggggc  
8760  
gcggatgggg tggatgaagg gccaccagcc agcaaggccc ctcagcagcc aggggaaggaa  
8820  
gctgccaaga caccagatgc caaagctgcc cccacccccca ccctgcccc cgtccctgtc  
8880  
cctgtcccc ttctgtcccc tgctcctgcc cctcatggtg agggccgtat cctcacagtt  
8940

acccccagta accaactcca ggggctgcct ctgaccctc ctgtggtggt gacccatggg  
9000  
gtgcagattg tgcactccag cggggagctg tttcaagagt accggtacgg cgacatccgc  
9060  
acctaccacc ccccgGCCa gctcacacac actcagtttc ccgccccttc ctctgttggc  
9120  
ctgccttccc ggaccaagac agctgctcag ggccctcctc ctgaagggtga gccctgacg  
9180  
cctcctcagc ctgtgcagtc cacacagcct gccagcctg caccaccctg cccgccctcc  
9240  
cagctcggtc agcccgGCCa gccaccaagc agcaagatgc ctcaagtgtc ccaggaggca  
9300  
aaggggaccc agacgggagt agagcagcct cgcctcccag ctggacctgc aaacaggcca  
9360  
cctgagcctc acaccaggt tcagagggca caagcagaaa caggcccgac ttccttcccc  
9420  
tcccctgtgt ctgtctccat gaagcctgac cttccagtct ctcttccac tcagactgcc  
9480  
ccaaaacagc cgttgtttgt cccaacaacc tctggcccca gcacccacc aggactggtt  
9540  
ctgccacaca ctgaattcca gccagcccc aaacaagatt cctctccaca cctgacttcc  
9600  
cagagacccg tggatatggt tcaacttctg aagaagtacc ccatcgtgtg gcagggcctg  
9660  
ctggccctca agaatgacac agctgctgtg cagctccact tcgtctctgg caacaacgtc  
9720  
ctggcccatc ggtccctgcc ctttctgaa ggagggcccc cactaaggat cgcccagagg  
9780  
atgcggctgg aggcaacgca gctggaagg gttgcccgaa ggatgacgtt ggcctctgcc  
9840  
tcagtggaga cagattactg tctgctgctg gctctgcct gtggccgtga ccaagaggat  
9900  
gttgtgagcc agaccgagtc cctcaaggct gccttcatca cttacctgca ggccaagcag  
9960  
gcggcaggga tcatcaacgt tcccaaccct ggctccaatc agcctgccta cgtgctgacg  
10020  
atcttcccgc cctgtgagtt ctctgagagt cacctgtccc gcctggcccc tgacctcctt  
10080  
gccagcatct ccaacatctc tccccacctc atgattgtca ttgcctccgt gtgagccact  
10140  
gagtggttat cacctcagtg aatcttccca gggctctgca gtaaaaacaa aggacaaccc  
10200  
agccaagcag aggaagaagc tgccgaagg gacagactcc actgccagac ggccagccgt  
10260  
ttgctgtcct gccgcccggc tcagtcggcc agacttcctc taggagtggg gctgctacct  
10320  
tgtatgttta cataatgctt tagcccaagg acacatcacc aacctatgga ctgcagaca  
10380  
ccggggctgg gtttctcttt cctctttttg gagaaaagga acagggcagt ggaatgaaaa  
10440  
ttttttgttt gtttgttttt aagaaacaag aaaacagaac tgcccttgca ctaaattagt  
10500  
gacttggact tttgccagc gaagacaggc tgtgacactc tggatgtctt ggtgtgtgta  
10560

gacacacatt gcagactctt aacgcaggaa ggacttcaaa cttctgctga gaccttgggg  
 10620  
 tcaaggaaca tttcattggt tttttttgtc cacccecatc tcccttgctc atttggtatgc  
 10680  
 gtcaccttaa ttctcctgct gccaccgtct ttgattcacc gggatgtaca gtttacagtt  
 10740  
 gaagagcaaa cagaaagggt ttctcttggt gggatatgca gaacttggga tgtgtgtata  
 10800  
 tataaatata taatatatat aaatatatat aatactgact taaaaaatca aatccccga  
 10860  
 catacgtttt ttttaatctg tgccaaaaat gtgttttcag aggaaatctt attttcatat  
 10920  
 tcagactttg tattgcccac tcatttgtat aagtgcgctt cggtacagca cgggtcctgc  
 10980  
 tcccgcgatg tggaagtgtc acacggcacc tgtacaaaaa gactggctaa cccctcttcc  
 11040  
 tattaccttg atctcttccc ccaacttctt aacacttatt aatttatgaa actgtttttc  
 11100  
 tcagcgcagt tttgttttgt gtgtccattg gattacaaac ttattataaa aatataaaac  
 11160  
 acaccaagtg tgagtgtgat tgtcacttgg gtgggaagac gaaccatggg tccttggctt  
 11220  
 atgggaacag tcagccctca tcccgctttt gctcccatg ccaagtctgt acatgggaac  
 11280  
 tgtttccctt ctgcctccta gtcagtcagt cctcctcccc aaggataatt ttatcttgta  
 11340  
 caaaggagat ttttgtcacg gacactgaac ttaaccattt ctactcttg tgggtgtctc  
 11400  
 agagtcctaa ctggttctta ggtaatgtgg aaggaaggca cttccaattt tgatacagaa  
 11460  
 tataaccaca ccccatgcca tctcagaaac attttagcaa gctttggttt cttgtctctc  
 11520  
 tcttgcccc tcttcccttc tcccagtggt aagcaggctg actcctgcag aggcagtggc  
 11580  
 ctgctggagc cctgggggct catttgatcc cgtctctgcc tccagacagg agaatgggag  
 11640  
 ttggggacag gcttcccctg cagctggatt ctctagaagc  
 11680

&lt;210&gt; 4510

&lt;211&gt; 3266

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4510

Met	Gln	Ile	Glu	Val	Thr	Ala	Trp	Ile	Gly	Pro	Glu	Thr	Glu	Ser	Glu
1				5					10					15	
Asn	Glu	Phe	Arg	Pro	Leu	Asp	Glu	Arg	Ile	Asp	Glu	Phe	His	Pro	Lys
			20					25					30		
Ala	Thr	Arg	Thr	Leu	Phe	Ile	Gly	Asn	Leu	Glu	Lys	Thr	Thr	Thr	Tyr
		35					40					45			
His	Asp	Leu	Arg	Asn	Ile	Phe	Gln	Arg	Phe	Gly	Glu	Ile	Val	Asp	Ile
	50				55						60				
Asp	Ile	Lys	Lys	Val	Asn	Gly	Val	Pro	Gln	Tyr	Ala	Phe	Leu	Gln	Tyr

65                                      70                                      75                                      80  
 Cys Asp Ile Ala Ser Val Cys Lys Ala Ile Lys Lys Met Asp Gly Glu  
    85                                      90                                      95  
 Tyr Leu Gly Asn Asn Arg Leu Lys Leu Gly Phe Gly Lys Ser Met Pro  
    100                                      105                                      110  
 Thr Asn Cys Val Trp Leu Asp Gly Leu Ser Ser Asn Val Ser Asp Gln  
    115                                      120                                      125  
 Tyr Leu Thr Arg His Phe Cys Arg Tyr Gly Pro Val Val Lys Val Val  
    130                                      135                                      140  
 Phe Asp Arg Leu Lys Gly Met Ala Leu Val Leu Tyr Asn Glu Ile Glu  
    145                                      150                                      155                                      160  
 Tyr Ala Gln Ala Ala Val Lys Glu Thr Lys Gly Arg Lys Ile Gly Gly  
    165                                      170                                      175  
 Asn Lys Ile Lys Val Asp Phe Ala Asn Arg Glu Ser Gln Leu Ala Phe  
    180                                      185                                      190  
 Tyr His Cys Met Glu Lys Ser Gly Gln Asp Ile Arg Asp Phe Tyr Glu  
    195                                      200                                      205  
 Met Leu Ala Glu Arg Arg Glu Glu Arg Arg Ala Ser Tyr Asp Tyr Asn  
    210                                      215                                      220  
 Gln Asp Arg Thr Tyr Tyr Glu Ser Val Arg Thr Pro Gly Thr Tyr Pro  
    225                                      230                                      235                                      240  
 Glu Asp Ser Arg Arg Asp Tyr Pro Ala Arg Gly Arg Glu Phe Tyr Ser  
    245                                      250                                      255  
 Glu Trp Glu Thr Tyr Gln Gly Asp Tyr Tyr Glu Ser Arg Tyr Tyr Asp  
    260                                      265                                      270  
 Asp Pro Arg Glu Tyr Arg Asp Tyr Arg Asn Asp Pro Tyr Glu Gln Asp  
    275                                      280                                      285  
 Ile Arg Glu Tyr Ser Tyr Arg Gln Arg Glu Arg Glu Arg Glu Arg Glu  
    290                                      295                                      300  
 Arg Phe Glu Ser Asp Arg Asp Arg Asp His Glu Arg Arg Pro Ile Glu  
    305                                      310                                      315                                      320  
 Arg Ser Gln Ser Pro Val His Leu Arg Arg Pro Gln Ser Pro Gly Ala  
    325                                      330                                      335  
 Ser Pro Ser Gln Ala Glu Arg Leu Pro Ser Asp Ser Glu Arg Arg Leu  
    340                                      345                                      350  
 Tyr Ser Arg Ser Ser Asp Arg Ser Gly Ser Cys Ser Ser Leu Ser Pro  
    355                                      360                                      365  
 Pro Arg Tyr Glu Lys Leu Asp Lys Ser Arg Leu Glu Arg Tyr Thr Lys  
    370                                      375                                      380  
 Asn Glu Lys Thr Asp Lys Glu Arg Thr Phe Asp Pro Glu Arg Val Glu  
    385                                      390                                      395                                      400  
 Arg Glu Arg Arg Leu Ile Arg Lys Glu Lys Val Glu Lys Asp Lys Thr  
    405                                      410                                      415  
 Asp Lys Gln Lys Arg Lys Gly Lys Val His Ser Pro Ser Ser Gln Ser  
    420                                      425                                      430  
 Ser Glu Thr Asp Gln Glu Asn Glu Arg Glu Gln Ser Pro Glu Lys Pro  
    435                                      440                                      445  
 Arg Ser Cys Asn Lys Leu Ser Arg Glu Lys Ala Asp Lys Glu Gly Ile  
    450                                      455                                      460  
 Ala Lys Asn Arg Leu Glu Leu Met Pro Cys Val Val Leu Thr Arg Val  
    465                                      470                                      475                                      480  
 Lys Glu Lys Glu Gly Lys Val Ile Asp His Thr Pro Val Glu Lys Leu  
    485                                      490                                      495  
 Lys Ala Lys Leu Asp Asn Asp Thr Val Lys Ser Ser Ala Leu Asp Gln

**3700**



930 935 940  
 Ala Gly Arg Phe Asp Val Ser Phe Pro Asn Ser Ile Ile Lys Arg Asp  
 945 950 955 960  
 Ser Leu Arg Lys Arg Ser Val Arg Asp Leu Glu Pro Gly Glu Val Pro  
 965 970 975  
 Ser Asp Ser Asp Glu Asp Gly Glu His Lys Ser His Ser Pro Arg Ala  
 980 985 990  
 Ser Ala Leu Tyr Glu Ser Ser Arg Leu Ser Phe Leu Leu Arg Asp Arg  
 995 1000 1005  
 Glu Asp Lys Leu Arg Glu Arg Asp Glu Arg Leu Ser Ser Ser Leu Glu  
 1010 1015 1020  
 Arg Asn Lys Phe Tyr Ser Phe Ala Leu Asp Lys Thr Ile Thr Pro Asp  
 1025 1030 1035 1040  
 Thr Lys Ala Leu Leu Glu Arg Ala Lys Ser Leu Ser Ser Ser Arg Glu  
 1045 1050 1055  
 Glu Asn Trp Ser Phe Leu Asp Trp Asp Ser Arg Phe Ala Asn Phe Arg  
 1060 1065 1070  
 Asn Asn Lys Asp Lys Glu Lys Val Asp Ser Ala Pro Arg Pro Ile Pro  
 1075 1080 1085  
 Ser Trp Tyr Met Lys Lys Lys Lys Ile Arg Thr Asp Ser Glu Gly Lys  
 1090 1095 1100  
 Met Asp Asp Lys Lys Glu Asp His Lys Glu Glu Glu Gln Glu Arg Gln  
 1105 1110 1115 1120  
 Glu Leu Phe Ala Ser Arg Phe Leu His Ser Ser Ile Phe Glu Gln Asp  
 1125 1130 1135  
 Ser Lys Arg Leu Gln His Leu Glu Arg Lys Glu Glu Asp Ser Asp Phe  
 1140 1145 1150  
 Ile Ser Gly Arg Ile Tyr Gly Lys Gln Thr Ser Glu Gly Ala Asn Ser  
 1155 1160 1165  
 Thr Thr Asp Ser Ile Gln Glu Pro Val Val Leu Phe His Ser Arg Phe  
 1170 1175 1180  
 Met Glu Leu Thr Arg Met Gln Gln Lys Lys Lys Glu Lys Asp Gln Lys  
 1185 1190 1195 1200  
 Pro Lys Glu Val Glu Lys Gln Glu Asp Thr Glu Asn His Pro Lys Thr  
 1205 1210 1215  
 Pro Glu Ser Ala Pro Glu Asn Lys Asp Ser Glu Leu Lys Thr Pro Pro  
 1220 1225 1230  
 Ser Val Gly Pro Pro Ser Val Thr Val Val Thr Leu Glu Ser Ala Pro  
 1235 1240 1245  
 Ser Ala Leu Glu Lys Thr Thr Gly Asp Lys Thr Val Glu Ala Pro Leu  
 1250 1255 1260  
 Val Thr Glu Glu Lys Thr Val Glu Pro Ala Thr Val Ser Glu Glu Ala  
 1265 1270 1275 1280  
 Lys Pro Ala Ser Glu Pro Ala Pro Ala Pro Val Glu Gln Leu Glu Gln  
 1285 1290 1295  
 Val Asp Leu Pro Pro Gly Ala Asp Pro Asp Lys Glu Ala Ala Met Met  
 1300 1305 1310  
 Pro Ala Gly Val Glu Glu Gly Ser Ser Gly Asp Gln Pro Pro Tyr Leu  
 1315 1320 1325  
 Asp Ala Lys Pro Pro Thr Pro Gly Ala Ser Phe Ser Gln Ala Glu Ser  
 1330 1335 1340  
 Asn Val Asp Pro Glu Pro Asp Ser Thr Gln Pro Leu Ser Lys Pro Ala  
 1345 1350 1355 1360  
 Gln Lys Ser Glu Glu Ala Asn Glu Pro Lys Ala Glu Lys Pro Asp Ala

1365 1370 1375  
 Thr Ala Asp Ala Glu Pro Asp Ala Asn Gln Lys Ala Glu Ala Ala Pro  
 1380 1385 1390  
 Glu Ser Gln Pro Pro Ala Ser Glu Asp Leu Glu Val Asp Pro Pro Val  
 1395 1400 1405  
 Ala Ala Lys Asp Lys Lys Pro Asn Lys Ser Lys Arg Ser Lys Thr Pro  
 1410 1415 1420  
 Val Gln Ala Ala Ala Val Ser Ile Val Glu Lys Pro Val Thr Arg Lys  
 1425 1430 1435 1440  
 Ser Glu Arg Ile Asp Arg Glu Lys Leu Lys Arg Ser Asn Ser Pro Arg  
 1445 1450 1455  
 Gly Glu Ala Gln Lys Leu Leu Glu Leu Lys Met Glu Ala Glu Lys Ile  
 1460 1465 1470  
 Thr Arg Thr Ala Ser Lys Asn Ser Ala Ala Asp Leu Glu His Pro Glu  
 1475 1480 1485  
 Pro Ser Leu Pro Leu Ser Arg Thr Arg Arg Arg Asn Val Arg Ser Val  
 1490 1495 1500  
 Tyr Ala Thr Met Gly Asp His Glu Asn Arg Ser Pro Val Lys Glu Pro  
 1505 1510 1515 1520  
 Val Glu Gln Pro Arg Val Thr Arg Lys Arg Leu Glu Arg Glu Leu Gln  
 1525 1530 1535  
 Glu Ala Ala Ala Val Pro Thr Thr Pro Arg Arg Gly Arg Pro Pro Lys  
 1540 1545 1550  
 Thr Arg Arg Arg Ala Asp Glu Glu Glu Glu Asn Glu Ala Lys Glu Pro  
 1555 1560 1565  
 Ala Glu Thr Leu Lys Pro Pro Glu Gly Trp Arg Ser Pro Arg Ser Gln  
 1570 1575 1580  
 Lys Thr Ala Ala Gly Gly Gly Pro Gln Gly Lys Lys Gly Lys Asn Glu  
 1585 1590 1595 1600  
 Pro Lys Val Asp Ala Thr Arg Pro Glu Ala Thr Thr Glu Val Gly Pro  
 1605 1610 1615  
 Gln Ile Gly Val Lys Glu Ser Ser Met Glu Pro Lys Ala Ala Glu Glu  
 1620 1625 1630  
 Glu Ala Gly Ser Glu Gln Lys Arg Asp Arg Lys Asp Ala Gly Thr Asp  
 1635 1640 1645  
 Lys Asn Pro Pro Glu Thr Ala Pro Val Glu Val Val Glu Lys Lys Pro  
 1650 1655 1660  
 Ala Pro Glu Lys Asn Ser Lys Ser Lys Arg Gly Arg Ser Arg Asn Ser  
 1665 1670 1675 1680  
 Arg Leu Ala Val Asp Lys Ser Ala Ser Leu Lys Asn Val Asp Ala Ala  
 1685 1690 1695  
 Val Ser Pro Arg Gly Ala Ala Ala Gln Ala Gly Glu Arg Glu Ser Gly  
 1700 1705 1710  
 Val Val Ala Val Ser Pro Glu Lys Ser Glu Ser Pro Gln Lys Glu Asp  
 1715 1720 1725  
 Gly Leu Ser Ser Gln Leu Lys Ser Asp Pro Val Asp Pro Asp Lys Glu  
 1730 1735 1740  
 Pro Glu Lys Glu Asp Val Ser Ala Ser Gly Pro Ser Pro Glu Ala Thr  
 1745 1750 1755 1760  
 Gln Leu Ala Lys Gln Met Glu Leu Glu Gln Ala Val Glu His Ile Ala  
 1765 1770 1775  
 Lys Leu Ala Glu Ala Ser Ala Ser Ala Ala Tyr Lys Ala Asp Ala Pro  
 1780 1785 1790  
 Glu Gly Leu Ala Pro Glu Asp Arg Asp Lys Pro Ala His Gln Ala Ser

1795 1800 1805  
 Glu Thr Glu Leu Ala Ala Ala Ile Gly Ser Ile Ile Asn Asp Ile Ser  
 1810 1815 1820  
 Gly Glu Pro Glu Asn Phe Pro Ala Pro Pro Tyr Pro Gly Glu Ser  
 1825 1830 1835 1840  
 Gln Thr Asp Leu Gln Pro Pro Ala Gly Ala Gln Ala Leu Gln Pro Ser  
 1845 1850 1855  
 Glu Glu Gly Met Glu Thr Asp Glu Ala Val Ser Gly Ile Leu Glu Thr  
 1860 1865 1870  
 Glu Ala Ala Thr Glu Ser Ser Arg Pro Pro Val Asn Ala Pro Asp Pro  
 1875 1880 1885  
 Ser Ala Gly Pro Thr Asp Thr Lys Glu Ala Arg Gly Asn Ser Ser Glu  
 1890 1895 1900  
 Thr Ser His Ser Val Pro Glu Ala Lys Gly Ser Lys Glu Val Glu Val  
 1905 1910 1915 1920  
 Thr Leu Val Arg Lys Asp Lys Gly Arg Gln Lys Thr Thr Arg Ser Arg  
 1925 1930 1935  
 Arg Lys Arg Asn Thr Asn Lys Lys Val Val Ala Pro Val Glu Ser His  
 1940 1945 1950  
 Val Pro Glu Ser Asn Gln Ala Gln Gly Glu Ser Pro Ala Ala Asn Glu  
 1955 1960 1965  
 Gly Thr Thr Val Gln His Pro Glu Ala Pro Gln Glu Glu Lys Gln Ser  
 1970 1975 1980  
 Glu Lys Pro His Ser Thr Pro Pro Gln Ser Cys Thr Ser Asp Leu Ser  
 1985 1990 1995 2000  
 Lys Ile Pro Ser Thr Glu Asn Ser Ser Gln Glu Ile Ser Val Glu Glu  
 2005 2010 2015  
 Arg Thr Pro Thr Lys Ala Ser Val Pro Pro Asp Leu Pro Pro Pro  
 2020 2025 2030  
 Gln Pro Ala Pro Val Asp Glu Glu Pro Gln Ala Arg Phe Arg Val His  
 2035 2040 2045  
 Ser Ile Ile Glu Ser Asp Pro Val Thr Pro Pro Ser Asp Pro Ser Ile  
 2050 2055 2060  
 Pro Ile Pro Thr Leu Pro Ser Val Thr Ala Ala Lys Leu Ser Pro Pro  
 2065 2070 2075 2080  
 Val Ala Ser Gly Gly Ile Pro His Gln Ser Pro Pro Thr Lys Val Thr  
 2085 2090 2095  
 Glu Trp Ile Thr Arg Gln Glu Glu Pro Arg Ala Gln Ser Thr Pro Ser  
 2100 2105 2110  
 Pro Ala Leu Pro Pro Asp Thr Lys Ala Ser Asp Val Asp Thr Ser Ser  
 2115 2120 2125  
 Ser Thr Leu Arg Lys Ile Leu Met Asp Pro Lys Tyr Val Ser Ala Thr  
 2130 2135 2140  
 Ser Val Thr Ser Thr Ser Val Thr Thr Ala Ile Ala Glu Pro Val Ser  
 2145 2150 2155 2160  
 Ala Ala Pro Cys Leu His Glu Ala Pro Pro Pro Val Asp Ser Lys  
 2165 2170 2175  
 Lys Pro Leu Glu Glu Lys Thr Ala Pro Pro Val Thr Asn Asn Ser Glu  
 2180 2185 2190  
 Ile Gln Ala Ser Glu Val Leu Val Ala Ala Asp Lys Glu Lys Val Ala  
 2195 2200 2205  
 Pro Val Ile Ala Pro Lys Ile Thr Ser Val Ile Ser Arg Met Pro Val  
 2210 2215 2220  
 Ser Ile Asp Leu Glu Asn Ser Gln Lys Ile Thr Leu Ala Lys Pro Ala

2225                      2230                      2235                      2240  
 Pro Gln Thr Leu Thr Gly Leu Val Ser Ala Leu Thr Gly Leu Val Asn  
                                  2245                      2250                      2255  
 Val Ser Leu Val Pro Val Asn Ala Leu Lys Gly Pro Val Lys Gly Ser  
                                  2260                      2265                      2270  
 Val Thr Thr Leu Lys Ser Leu Val Ser Thr Pro Ala Gly Pro Val Asn  
                                  2275                      2280                      2285  
 Val Leu Lys Gly Pro Val Asn Val Leu Thr Gly Pro Val Asn Val Leu  
                                  2290                      2295                      2300  
 Thr Thr Pro Val Asn Ala Thr Val Gly Thr Val Asn Ala Ala Pro Gly  
 2305                      2310                      2315                      2320  
 Thr Val Asn Ala Ala Ala Ser Ala Val Asn Ala Thr Ala Ser Ala Val  
                                  2325                      2330                      2335  
 Thr Val Thr Ala Gly Ala Val Thr Ala Ala Ser Gly Gly Val Thr Ala  
                                  2340                      2345                      2350  
 Thr Thr Gly Thr Val Thr Met Ala Gly Ala Val Ile Ala Pro Ser Thr  
                                  2355                      2360                      2365  
 Lys Cys Lys Gln Arg Ala Ser Ala Asn Glu Asn Ser Arg Phe His Pro  
                                  2370                      2375                      2380  
 Gly Ser Met Pro Val Ile Asp Asp Arg Pro Ala Asp Ala Gly Ser Gly  
 2385                      2390                      2395                      2400  
 Ala Gly Leu Arg Val Asn Thr Ser Glu Gly Val Val Leu Leu Ser Tyr  
                                  2405                      2410                      2415  
 Ser Gly Gln Lys Thr Glu Gly Pro Gln Arg Ile Ser Ala Lys Ile Ser  
                                  2420                      2425                      2430  
 Gln Ile Pro Pro Ala Ser Ala Met Asp Ile Glu Phe Gln Gln Ser Val  
                                  2435                      2440                      2445  
 Ser Lys Ser Gln Val Lys Pro Asp Ser Val Thr Ala Ser Gln Pro Pro  
                                  2450                      2455                      2460  
 Ser Lys Gly Pro Gln Ala Pro Ala Gly Tyr Ala Asn Val Ala Thr His  
 2465                      2470                      2475                      2480  
 Ser Thr Leu Val Leu Thr Ala Gln Thr Tyr Asn Ala Ser Pro Val Ile  
                                  2485                      2490                      2495  
 Ser Ser Val Lys Ala Asp Arg Pro Ser Leu Glu Lys Pro Glu Pro Ile  
                                  2500                      2505                      2510  
 His Leu Ser Val Ser Thr Pro Val Thr Gln Gly Gly Thr Val Lys Val  
                                  2515                      2520                      2525  
 Leu Thr Gln Gly Ile Asn Thr Pro Pro Val Leu Val His Asn Gln Leu  
                                  2530                      2535                      2540  
 Val Leu Thr Pro Ser Ile Val Thr Thr Asn Lys Lys Leu Ala Asp Pro  
 2545                      2550                      2555                      2560  
 Val Thr Leu Lys Ile Glu Thr Lys Val Leu Gln Pro Ala Asn Leu Gly  
                                  2565                      2570                      2575  
 Ser Thr Leu Thr Pro His His Pro Pro Ala Leu Pro Ser Lys Leu Pro  
                                  2580                      2585                      2590  
 Thr Glu Val Asn His Val Pro Ser Gly Pro Ser Ile Pro Ala Asp Arg  
                                  2595                      2600                      2605  
 Thr Val Ser His Leu Ala Ala Ala Lys Leu Asp Ala His Ser Pro Arg  
                                  2610                      2615                      2620  
 Pro Ser Gly Pro Gly Pro Ser Ser Phe Pro Arg Ala Ser His Pro Ser  
 2625                      2630                      2635                      2640  
 Ser Thr Ala Ser Thr Ala Leu Ser Thr Asn Ala Thr Val Met Leu Ala  
                                  2645                      2650                      2655  
 Ala Gly Ile Pro Val Pro Gln Phe Ile Ser Ser Ile His Pro Glu Gln

2660	2665	2670
Ser Val Ile Met Pro Pro His	Ser Ile Thr Gln Thr Val Ser Leu Ser	
2675	2680	2685
His Leu Ser Gln Gly Glu Val Arg Met Asn Thr	Pro Thr Leu Pro Ser	
2690	2695	2700
Ile Thr Tyr Ser Ile Arg Pro Glu Ala Leu His Ser	Pro Arg Ala Pro	
2705	2710	2715
Leu Gln Pro Gln Gln Ile Glu Val Arg Ala Pro Gln Arg Ala	Ser Thr	2720
2725	2730	2735
Pro Gln Pro Ala Pro Ala Gly Val Pro Ala Leu Ala Ser Gln His Pro		
2740	2745	2750
Pro Glu Glu Glu Val His Tyr His Leu Pro Val Ala Arg Ala Thr Ala		
2755	2760	2765
Pro Val Gln Ser Glu Val Leu Val Met Gln Ser Glu Tyr Arg Leu His		
2770	2775	2780
Pro Tyr Thr Val Pro Arg Asp Val Arg Ile Met Val His Pro His Val		
2785	2790	2795
Thr Ala Val Ser Glu Gln Pro Arg Ala Ala Asp Gly Val Val Lys Val		2800
2805	2810	2815
Pro Pro Ala Ser Lys Ala Pro Gln Gln Pro Gly Lys Glu Ala Ala Lys		
2820	2825	2830
Thr Pro Asp Ala Lys Ala Ala Pro Thr Pro Thr Pro Ala Pro Val Pro		
2835	2840	2845
Val Pro Val Pro Leu Pro Ala Pro Ala Pro Ala Pro His Gly Glu Ala		
2850	2855	2860
Arg Ile Leu Thr Val Thr Pro Ser Asn Gln Leu Gln Gly Leu Pro Leu		
2865	2870	2875
Thr Pro Pro Val Val Val Thr His Gly Val Gln Ile Val His Ser Ser		
2885	2890	2895
Gly Glu Leu Phe Gln Glu Tyr Arg Tyr Gly Asp Ile Arg Thr Tyr His		
2900	2905	2910
Pro Pro Ala Gln Leu Thr His Thr Gln Phe Pro Ala Ala Ser Ser Val		
2915	2920	2925
Gly Leu Pro Ser Arg Thr Lys Thr Ala Ala Gln Gly Pro Pro Pro Glu		
2930	2935	2940
Gly Glu Pro Leu Gln Pro Pro Gln Pro Val Gln Ser Thr Gln Pro Ala		
2945	2950	2955
Gln Pro Ala Pro Pro Cys Pro Pro Ser Gln Leu Gly Gln Pro Gly Gln		
2965	2970	2975
Pro Pro Ser Ser Lys Met Pro Gln Val Ser Gln Glu Ala Lys Gly Thr		
2980	2985	2990
Gln Thr Gly Val Glu Gln Pro Arg Leu Pro Ala Gly Pro Ala Asn Arg		
2995	3000	3005
Pro Pro Glu Pro His Thr Gln Val Gln Arg Ala Gln Ala Glu Thr Gly		
3010	3015	3020
Pro Thr Ser Phe Pro Ser Pro Val Ser Val Ser Met Lys Pro Asp Leu		
3025	3030	3035
Pro Val Ser Leu Pro Thr Gln Thr Ala Pro Lys Gln Pro Leu Phe Val		
3045	3050	3055
Pro Thr Thr Ser Gly Pro Ser Thr Pro Pro Gly Leu Val Leu Pro His		
3060	3065	3070
Thr Glu Phe Gln Pro Ala Pro Lys Gln Asp Ser Ser Pro His Leu Thr		
3075	3080	3085
Ser Gln Arg Pro Val Asp Met Val Gln Leu Leu Lys Lys Tyr Pro Ile		

3090                      3095                      3100  
 Val Trp Gln Gly Leu Leu Ala Leu Lys Asn Asp Thr Ala Ala Val Gln  
 3105                      3110                      3115                      3120  
 Leu His Phe Val Ser Gly Asn Asn Val Leu Ala His Arg Ser Leu Pro  
                     3125                      3130                      3135  
 Leu Ser Glu Gly Gly Pro Pro Leu Arg Ile Ala Gln Arg Met Arg Leu  
                     3140                      3145                      3150  
 Glu Ala Thr Gln Leu Glu Gly Val Ala Arg Arg Met Thr Leu Ala Ser  
                     3155                      3160                      3165  
 Ala Ser Val Glu Thr Asp Tyr Cys Leu Leu Leu Ala Leu Pro Cys Gly  
                     3170                      3175                      3180  
 Arg Asp Gln Glu Asp Val Val Ser Gln Thr Glu Ser Leu Lys Ala Ala  
 3185                      3190                      3195                      3200  
 Phe Ile Thr Tyr Leu Gln Ala Lys Gln Ala Ala Gly Ile Ile Asn Val  
                     3205                      3210                      3215  
 Pro Asn Pro Gly Ser Asn Gln Pro Ala Tyr Val Leu Gln Ile Phe Pro  
                     3220                      3225                      3230  
 Pro Cys Glu Phe Ser Glu Ser His Leu Ser Arg Leu Ala Pro Asp Leu  
                     3235                      3240                      3245  
 Leu Ala Ser Ile Ser Asn Ile Ser Pro His Leu Met Ile Val Ile Ala  
                     3250                      3255                      3260  
 Ser Val  
 3265

<210> 4511  
 <211> 1375  
 <212> DNA  
 <213> Homo sapiens

<400> 4511  
 gctgggtcggg ccaggtctct tccatcact attgaaatgc taaaagttcc agacgatgaa  
 60  
 gaagaagagg agcaaactg tccatccaca ttcagtgaag aaatgacacc tacctcagtc  
 120  
 attcctaaat taccacagtg tctacgggag gaagaagaga aggagagcga ctctgattca  
 180  
 gaaggtecca ttcagtaccg agatgaagaa gatgaagatg aaagctatca gaggtcactc  
 240  
 gccaacaaag tgaagaggaa agacacactg gcaatgaagt tgaaccacag acccagtga  
 300  
 ccagagttga acctgaattc ttggccttgt aaaagcaagg aggagtggaa tgaaatacgg  
 360  
 caccagattg gaaacacact gatccggcga ctgagtcaaa gaccaacacc agaagaacta  
 420  
 gaacaacgca atatattgca acctaaaaat gaagctgacg gtcaggcaga aaaacgagaa  
 480  
 attaaacgtc ggctcactag aaagctcagt caaaggccaa ctgtcgctga actccttgcc  
 540  
 aggaagattc tgagggttaa tgaatatgta gaggtaacag atgctcaaga ttatgaccgg  
 600  
 cgagccgaca aaccttgga ccaactgacc cctgctgaca aggctgccat aagaaaagaa  
 660  
 ttaaatgaat ttaaaagctc cgagatggag gttcatgaag agagcaaaca ttttacacgc  
 720

taccatcgtc catgatgcca aaggttgaga gaggaatcaa catggctgct ttgctgcttc  
 780  
 cttctccaaa gtgacatatg gagggaaactt tagcacttcc cagcacagcc agaattgcat  
 840  
 cctctgggat cttctgaggt ggacagcact ttgaatgtag catttcactg gaacagagtc  
 900  
 ttatgtgctg caccgggggc aaaacaacac tttgtcagtg cttttgaacc tttcaatatt  
 960  
 gtagcatgct tgaggagttt ttccttact ggccaccaa gttctgaacc acttgaggt  
 1020  
 tccaggtttt actggctgca ccacaccct tcccttagat gactgcctgt gcagagacac  
 1080  
 agtttgcacc attagcctta cctgccttgc cctgattgtg agacccaaat gtgtaggctc  
 1140  
 taaattccag ccatcaaate caattcctgg tggggaaaac cttctggaga cccccaacct  
 1200  
 tctgataaaa gagtctctac ctccaggga agccttctta ccacactggc atatcagatg  
 1260  
 aaagcattgc actgtacctc tcgtaacaca gcaatacagt cctcttgagg cactcaagcc  
 1320  
 tgagaggaag ctcaggatct gacatgttct tccttttctt cacaagtcac catga  
 1375

<210> 4512

<211> 244

<212> PRT

<213> Homo sapiens

<400> 4512

Ala	Gly	Arg	Thr	Arg	Ser	Leu	Pro	Ile	Thr	Ile	Glu	Met	Leu	Lys	Val
1				5					10					15	
Pro	Asp	Asp	Glu	Glu	Glu	Glu	Glu	Gln	Thr	Cys	Pro	Ser	Thr	Phe	Ser
			20					25					30		
Glu	Glu	Met	Thr	Pro	Thr	Ser	Val	Ile	Pro	Lys	Leu	Pro	Gln	Cys	Leu
		35					40				45				
Arg	Glu	Glu	Glu	Glu	Lys	Glu	Ser	Asp	Ser	Asp	Ser	Glu	Gly	Pro	Ile
		50			55						60				
Gln	Tyr	Arg	Asp	Glu	Glu	Asp	Glu	Asp	Glu	Ser	Tyr	Gln	Ser	Ala	Leu
65					70				75					80	
Ala	Asn	Lys	Val	Lys	Arg	Lys	Asp	Thr	Leu	Ala	Met	Lys	Leu	Asn	His
			85					90					95		
Arg	Pro	Ser	Glu	Pro	Glu	Leu	Asn	Leu	Asn	Ser	Trp	Pro	Cys	Lys	Ser
			100				105					110			
Lys	Glu	Glu	Trp	Asn	Glu	Ile	Arg	His	Gln	Ile	Gly	Asn	Thr	Leu	Ile
		115			120						125				
Arg	Arg	Leu	Ser	Gln	Arg	Pro	Thr	Pro	Glu	Glu	Leu	Glu	Gln	Arg	Asn
		130			135						140				
Ile	Leu	Gln	Pro	Lys	Asn	Glu	Ala	Asp	Arg	Gln	Ala	Glu	Lys	Arg	Glu
145				150						155				160	
Ile	Lys	Arg	Arg	Leu	Thr	Arg	Lys	Leu	Ser	Gln	Arg	Pro	Thr	Val	Ala
			165					170						175	
Glu	Leu	Leu	Ala	Arg	Lys	Ile	Leu	Arg	Phe	Asn	Glu	Tyr	Val	Glu	Val
			180				185						190		
Thr	Asp	Ala	Gln	Asp	Tyr	Asp	Arg	Arg	Ala	Asp	Lys	Pro	Trp	Thr	Lys

195	200	205
Leu Thr Pro Ala Asp Lys	Ala Ala Ile Arg Lys	Glu Leu Asn Glu Phe
210	215	220
Lys Ser Ser Glu Met Glu	Val His Glu Glu Ser	Lys His Phe Thr Arg
225	230	235
Tyr His Arg Pro		240

<210> 4513  
 <211> 545  
 <212> DNA  
 <213> Homo sapiens

<400> 4513  
 aagctttact acacagctac agtaatggag acagcaggta ccgctctaca gcaaaagacc  
 60  
 tgcattcaccg agtccacgca cacttgccct gcagcttcat gtcagagagc agctgagcag  
 120  
 tcagcacctg caccggggg ttgggcccctg gggcttcctt cccagtcacg cctctcagct  
 180  
 cctgtctgtg gcttagcacg tgcaccacag agccaaccag atcctctgta aacttttggg  
 240  
 cttctctggc cttcacggga cttctctgtg cagaaatcat tttcataatc atgagactct  
 300  
 tctcctcgga gtttcctttc aacaggtggg acatggatgc tgtgaactgc tcctgggaca  
 360  
 cgttctcact ggggtccctc gccttcctctg tcaggtcgac cctccgcatg ccatcataca  
 420  
 gcctggtgac catctctggg ggaagagctt ccccgacgtg gttctgtagt gccttcagag  
 480  
 agaaggattt ggatgagaca ttcgggctgt ttttatctga tgacagagca tcaaacaatt  
 540  
 gatca  
 545

<210> 4514  
 <211> 122  
 <212> PRT  
 <213> Homo sapiens

<400> 4514  
 Met Val Thr Arg Leu Tyr Asp Gly Met Arg Arg Val Asp Leu Thr Gly  
 1 5 10 15  
 Lys Ala Lys Gly Pro Ser Glu Asn Val Ser Gln Glu Gln Phe Thr Ala  
 20 25 30  
 Ser Met Ser His Leu Leu Lys Gly Asn Ser Glu Glu Lys Ser Leu Met  
 35 40 45  
 Ile Met Lys Met Ile Ser Ala Thr Glu Gly Pro Val Lys Ala Arg Glu  
 50 55 60  
 Val Gln Lys Phe Thr Glu Asp Leu Val Gly Ser Val Val His Val Leu  
 65 70 75 80  
 Ser His Arg Gln Glu Leu Arg Gly Trp Thr Gly Lys Glu Ala Pro Gly  
 85 90 95  
 Pro Asn Pro Arg Val Gln Val Leu Thr Ala Gln Leu Leu Ser Asp Met



100                      105                      110  
 Lys Leu Gln Gly Lys Cys Ala Trp Thr Arg  
       115                      120

<210> 4515  
 <211> 3207  
 <212> DNA  
 <213> Homo sapiens

<400> 4515  
 ncaaacaacc actgggaggg actgtttccc ccccatcccg ccctgggcag ggcacgtccc  
 60  
 actccccccg cgcggttgct gggaaccgag aggccgcccg ggcggagcgc ggagggcgcg  
 120  
 tcggaacctg gccggggccc tccaccgagc ccgtgggtccc ggtggttgcg ccccgtagcg  
 180  
 agcgacgccg acaactttgc gatggagttt gtgcgggcgc tgtggctggg cctggcgctg  
 240  
 gcgctggggc cgggggtccgc gggggggcac cctcagccgt gcggcgctct ggcgcgctc  
 300  
 gggggctccg tgcgcctggg cgcctcctg ccccgcgcg ctcctcgccc cgcccgcgcc  
 360  
 cgcgcgccc tggcccgggc cgccttgagg ccgaggctgc cgcacaacct gagcttgagg  
 420  
 ctggtggtcg ccgcgcccc cgcgcgcgac cccgcctcgc tgaccgcggg cctgtgccag  
 480  
 gcgctggtgc ctccggggcg ggcgggccctg ctgcctttc ccgaggctcg gcccagagctg  
 540  
 ctgcagctgc acttcctggc ggcgggccacc gagacccccg tgctcagcct gctgcggcgg  
 600  
 gaggcgcgcg cgcctcctcg agccccgaac ccattccacc tgcagctgca ctggggccagc  
 660  
 cccctggaga cgtgctgga tgtgctggtg gcggtgctgc aggcgcacgc ctgggaagac  
 720  
 gtcggcctgg ccctgtgccg cactcaggac cccggcgggc tggtagccct ctggacaagc  
 780  
 cgggctggcc ggccccca cgtggtcctg gacctaagcc ggcgggacac gggagatgca  
 840  
 ggactgcggg cagcctggc cccgatggcg gcgccagtgg ggggtgaagc accggtaccc  
 900  
 gcggcggtcc tctcggtcg tgacatcgcc cgtgcccgtc gggtagctgga ggccgtacct  
 960  
 cccggcccc actggctgtt ggggacacca ctgccgcca aggcctgcc caccgcgggg  
 1020  
 ctgccaccag ggtgctggc gctgggagag gtggcacgac ccccgctgga ggccgccatc  
 1080  
 catgacattg tgcaactggt ggcccgggcg ctgggcagtg cggcccaggt gcagccgaag  
 1140  
 cgagccctcc tccccgccc ggtcaactgc ggggacctgc agccggcccg gcccgagtcc  
 1200  
 ccggggcgct tcttggcacg gttcctggcc aacacgtcct tccagggccg cacggggccc  
 1260  
 gtgtgggtga caggcagctc ccaggtacac atgtctcggc actttaaggt gtggagcctt  
 1320

cgccgggacc cacggggcgc cccggcctgg gccacggtgg gcagctggcg gtacggccag  
 1380  
 ctggacttgg aaccgggagg tgcctctgca tggccccgc ccccgaggg tgcccaggtc  
 1440  
 cggcccaagc tgcgtgtggt aacgctgttg gaacacccat ttgtgtttgc ccgtgatcca  
 1500  
 gacgaagacg ggcagtgccc agcagggcag ctgtgcctgg acccggcac caacgactcg  
 1560  
 gccaccctgg acgcactgtt cgcgcgctg gccaacggct cagcgccccg tgccctgcgc  
 1620  
 aagtgtctgt acggctactg cattgacctg ctggagcggc tggcggagga cacgcccttc  
 1680  
 gacttcgagc tgtacctcgt gggtgacggc aagtacggcg ccctgcggga cggccgctgg  
 1740  
 accggcctgg tcggggacct gctggccggc cgggcccaca tggcggtcac cagcttcagt  
 1800  
 atcaactccg cccgctcaca ggtggtggac ttcaccagcc ccttcttctc caccagcctg  
 1860  
 ggcacatcagc tgcgggcacg ggacacggcc tcaccatcg gtgcctttat gtggccccg  
 1920  
 cactgggtcca cgtggctggg cgtctttgcg gccctgcacc tcaccgcgct cttcctcacc  
 1980  
 gtgtacgagt ggcgtagccc ctacggcctc acgccacgtg gccgcaaccg cagcacgcgc  
 2040  
 ttctcctact cctcagccct caacctgtgc tacgccatcc tcttcagacg caccgtgtcc  
 2100  
 agcaagacgc ccaagtgccc cacggggcgc ctgctcatga acctctgggc catcttctgc  
 2160  
 ctgctggtgc tgtccagcta cacggccaac ctggctgccg tcatggtcgg ggacaagacc  
 2220  
 ttcgaggagc tgtcggggat ccacgacccc aagctgcacc acccggcgca gggcttcgc  
 2280  
 ttcggcaccg tgtgggagag cagcgccgag gcgtacatca agaagagctt ccccgacatg  
 2340  
 cacgcacaca tgcggcgcca cagcgcgccc accacgcccc gcggcgtcgc catgctcacg  
 2400  
 agcgaccccc ccaagctcaa cgccttcac atggacaagt cgctcctgga ctacgaggtc  
 2460  
 tccatcgacg ccgactgcaa actgctgacc gtgggaaagc ccttcgcat tgagggctat  
 2520  
 gggatcggac tgccccagaa ctgcgcgctc acctccaacc tgtccgagtt catcagccgc  
 2580  
 tacaagtcc cggcttcat cgacctgctc cagacaagt ggtacaagat ggtgccttgc  
 2640  
 ggcaagcggg tctttgcggt tacagagacc ctgcagatga gcatctacca cttcgcgggc  
 2700  
 ctcttcgtgt tgcgtgtgct gggcctgggc agcgtctgc tcagctcgct gggcgagcac  
 2760  
 gccttcttcc gcctggcgct gccgcgcatc cgcaagggga gcaggctgca gtactggctg  
 2820  
 cacaccagcc agaaaatcca ccgcgccctc aacacggagc caccagagg gtcgaaggag  
 2880  
 gagacggcag aggcggagcc caggtaagt gtggtcgggg cggaccacga tgcaggacca  
 2940

cccagaccca ccaccccacc agctcgcccc gaagccggcc gcggggtgca ggagggtccc  
 3000  
 ggagggtcccc cgcccccccc cggacgtgca caccgtggct ccctggttgt gcctgtcggc  
 3060  
 catcctctgc cgtcagcggc ctctgcagag gccagggcg cgagacggct gccccggcgg  
 3120  
 acactgacca ggccgggttc gtccccagcg gccccgaggt ggagcagcag cagcagcagc  
 3180  
 aggaccagcc aacgggtccg gagggct  
 3207

<210> 4516  
 <211> 901  
 <212> PRT  
 <213> Homo sapiens

<400> 4516  
 Met Glu Phe Val Arg Ala Leu Trp Leu Gly Leu Ala Leu Ala Leu Gly  
 1 5 10 15  
 Pro Gly Ser Ala Gly Gly His Pro Gln Pro Cys Gly Val Leu Ala Arg  
 20 25 30  
 Leu Gly Gly Ser Val Arg Leu Gly Ala Leu Leu Pro Arg Ala Pro Leu  
 35 40 45  
 Ala Arg Ala Arg Ala Arg Ala Ala Leu Ala Arg Ala Ala Leu Ala Pro  
 50 55 60  
 Arg Leu Pro His Asn Leu Ser Leu Glu Leu Val Val Ala Ala Pro Pro  
 65 70 75 80  
 Ala Arg Asp Pro Ala Ser Leu Thr Arg Gly Leu Cys Gln Ala Leu Val  
 85 90 95  
 Pro Pro Gly Val Ala Ala Leu Leu Ala Phe Pro Glu Ala Arg Pro Glu  
 100 105 110  
 Leu Leu Gln Leu His Phe Leu Ala Ala Thr Glu Thr Pro Val Leu  
 115 120 125  
 Ser Leu Leu Arg Arg Glu Ala Arg Ala Pro Leu Gly Ala Pro Asn Pro  
 130 135 140  
 Phe His Leu Gln Leu His Trp Ala Ser Pro Leu Glu Thr Leu Leu Asp  
 145 150 155 160  
 Val Leu Val Ala Val Leu Gln Ala His Ala Trp Glu Asp Val Gly Leu  
 165 170 175  
 Ala Leu Cys Arg Thr Gln Asp Pro Gly Gly Leu Val Ala Leu Trp Thr  
 180 185 190  
 Ser Arg Ala Gly Arg Pro Pro Gln Leu Val Leu Asp Leu Ser Arg Arg  
 195 200 205  
 Asp Thr Gly Asp Ala Gly Leu Arg Ala Arg Leu Ala Pro Met Ala Ala  
 210 215 220  
 Pro Val Gly Gly Glu Ala Pro Val Pro Ala Ala Val Leu Leu Gly Cys  
 225 230 235 240  
 Asp Ile Ala Arg Ala Arg Arg Val Leu Glu Ala Val Pro Pro Gly Pro  
 245 250 255  
 His Trp Leu Leu Gly Thr Pro Leu Pro Pro Lys Ala Leu Pro Thr Ala  
 260 265 270  
 Gly Leu Pro Pro Gly Leu Leu Ala Leu Gly Glu Val Ala Arg Pro Pro  
 275 280 285  
 Leu Glu Ala Ala Ile His Asp Ile Val Gln Leu Val Ala Arg Ala Leu

290 295 300  
 Gly Ser Ala Ala Gln Val Gln Pro Lys Arg Ala Leu Leu Pro Ala Pro  
 305 310 315 320  
 Val Asn Cys Gly Asp Leu Gln Pro Ala Gly Pro Glu Ser Pro Gly Arg  
 325 330 335  
 Phe Leu Ala Arg Phe Leu Ala Asn Thr Ser Phe Gln Gly Arg Thr Gly  
 340 345 350  
 Pro Val Trp Val Thr Gly Ser Ser Gln Val His Met Ser Arg His Phe  
 355 360 365  
 Lys Val Trp Ser Leu Arg Arg Asp Pro Arg Gly Ala Pro Ala Trp Ala  
 370 375 380  
 Thr Val Gly Ser Trp Arg Tyr Gly Gln Leu Asp Leu Glu Pro Gly Gly  
 385 390 395 400  
 Ala Ser Ala Trp Pro Pro Pro Gln Gly Ala Gln Val Arg Pro Lys  
 405 410 415  
 Leu Arg Val Val Thr Leu Leu Glu His Pro Phe Val Phe Ala Arg Asp  
 420 425 430  
 Pro Asp Glu Asp Gly Gln Cys Pro Ala Gly Gln Leu Cys Leu Asp Pro  
 435 440 445  
 Gly Thr Asn Asp Ser Ala Thr Leu Asp Ala Leu Phe Ala Ala Leu Ala  
 450 455 460  
 Asn Gly Ser Ala Pro Arg Ala Leu Arg Lys Cys Cys Tyr Gly Tyr Cys  
 465 470 475 480  
 Ile Asp Leu Leu Glu Arg Leu Ala Glu Asp Thr Pro Phe Asp Phe Glu  
 485 490 495  
 Leu Tyr Leu Val Gly Asp Gly Lys Tyr Gly Ala Leu Arg Asp Gly Arg  
 500 505 510  
 Trp Thr Gly Leu Val Gly Asp Leu Leu Ala Gly Arg Ala His Met Ala  
 515 520 525  
 Val Thr Ser Phe Ser Ile Asn Ser Ala Arg Ser Gln Val Val Asp Phe  
 530 535 540  
 Thr Ser Pro Phe Phe Ser Thr Ser Leu Gly Ile Met Val Arg Ala Arg  
 545 550 555 560  
 Asp Thr Ala Ser Pro Ile Gly Ala Phe Met Trp Pro Leu His Trp Ser  
 565 570 575  
 Thr Trp Leu Gly Val Phe Ala Ala Leu His Leu Thr Ala Leu Phe Leu  
 580 585 590  
 Thr Val Tyr Glu Trp Arg Ser Pro Tyr Gly Leu Thr Pro Arg Gly Arg  
 595 600 605  
 Asn Arg Ser Thr Val Phe Ser Tyr Ser Ser Ala Leu Asn Leu Cys Tyr  
 610 615 620  
 Ala Ile Leu Phe Arg Arg Thr Val Ser Ser Lys Thr Pro Lys Cys Pro  
 625 630 635 640  
 Thr Gly Arg Leu Leu Met Asn Leu Trp Ala Ile Phe Cys Leu Leu Val  
 645 650 655  
 Leu Ser Ser Tyr Thr Ala Asn Leu Ala Val Met Val Gly Asp Lys  
 660 665 670  
 Thr Phe Glu Glu Leu Ser Gly Ile His Asp Pro Lys Leu His His Pro  
 675 680 685  
 Ala Gln Gly Phe Arg Phe Gly Thr Val Trp Glu Ser Ser Ala Glu Ala  
 690 695 700  
 Tyr Ile Lys Lys Ser Phe Pro Asp Met His Ala His Met Arg Arg His  
 705 710 715 720  
 Ser Ala Pro Thr Thr Pro Arg Gly Val Ala Met Leu Thr Ser Asp Pro

[illegible]

```
<210> 4517
<211> 2275
<212> DNA
<213> Homo sapiens
```

```

<400> 4517
actagtttcta gatcgcgagc ggagctgctg actgcattct tctctgccac tgcggatgct
60
gcctccccgt ttccagcctg taagcccgtt gtggtggtga gctccctgct gctgcaggag
120
gaggagcccc tggctggggg gaagccgggt gcggacggtg gcagcctgga ggccgtgctg
180
ctggggccct cgtcaggcct cctagtggac tggctggaaa tgctggacct cgaggtggtc
240
agcagctgcc ccgacctgca gctcaggctg ctcttctccc ggaggaaggg caaaggctcag
300
gcccaggtgc cctcgttccg tcctacctc ctgacctct tcacgcatca gtccagctgg
360
cccacactgc accagtgcac ccgagtcctg ctgggcaaga gccgggaaca gaggttcgac
420
ccctctgcct ctctggactt cctctgggcc tgcattccatg ttccctcgcat ctggcagggg
480
cgggaccagc gcaccccgca gaagcggcgg gaggagctgg tgctgcgggt ccagggcccc
540
gagctcatca gcctggtgga gctgatectg gccgaggcgg agacgcggag ccaggacggg
600
gacacagccg cctgcagcct catccaggcc cggctgcccc tgctgctcag ctgctgctgt
660
ggggacgatg agagtgtcag gaaggtgacg gagcacctgt caggctgcat ccagcagtg
720

```

ggagacagcg tgctgggagc ggcgtgccga gaccttctcc tgcagctcta cctacagcgg  
780  
ccggagctgc ggggtgccgt gcctgaggtc ctactgcaca gcgaaggggc tgccagcagc  
840  
agcgtctgca agctggacgg actcatccac cgcttcatca cgctccttgc ggacaccagc  
900  
gactcccggg cgttggagaa ccgagggggc gatgccagca tggcctgccg gaagctggcg  
960  
gtggcgaccc cgctgctgct gctcaggcac ctgcccata tgcgggcgt cctgcacggc  
1020  
cgcacccacc tcaacttcca ggagttccgg cagcagaacc acctgagctg ctctctgcac  
1080  
gtgctggggc tgctggagct gctgcagccg cacgtgttcc gcagcgagca ccagggggcg  
1140  
ctgtgggact gccttctgtc cttcatccgc ctgctgctga attacaggaa gtctctccgc  
1200  
catctggctg ccttcatcaa caagtttgtg cagttcatcc ataagtacat tacctacaat  
1260  
gccccagcag ccatctcctt cctgcagaag cacgccgacc cgctccacga cctgtccttc  
1320  
gacaacagtg acctggtgat gctgaaatcc ctcttgcag ggctcagcct gccagcagg  
1380  
gacgacagga ccgaccgagg cctggacgaa gagggcgagg aggagagctc agccggctcc  
1440  
ttgcccctgg tcagcgtctc cctgttcacc cctctgaccg cggccgagat ggccccctac  
1500  
atgaaacggc tttcccgggg ccaaacggtg gaggggtgagt caggccctgc ttcaccacg  
1560  
ccagatctgc tggagggttct gactgacata gacgagatgt cccggcgagg acccgagatc  
1620  
ctgagcttct tctcgaccaa cctgcagcgg ctgatgagct cggccgagga gtgttgccgc  
1680  
aacctcgctt tcagcctggc cctgcgctcc atgcagaaca gccccagcat tgcagccgct  
1740  
ttctgcccc cgctcatgta ctgcctgggc agccaggact ttgaggtggt gcagacggcc  
1800  
ctccggaacc tgctgagta cgctctcctg tgccaagagc acgcgctgtg gctgctccac  
1860  
cgggccttcc tgggtgggcat gtacggccag atggaccca gcgcgcagat ctccgaggcc  
1920  
ctgaggatcc tgcataatga gcccgatgat tgagcctgtg gcagccgacc cccctccaag  
1980  
ccccggcccc tcccgctccc ggggatcctc gaggcaaagc ccaggaagcg tgggcgttgc  
2040  
tggctctgtc gaggaggtga gggcgccgag ccctgaggcc aggcaggccc aggagcaata  
2100  
ctccgagccc tgggggtggt ccgggcccgc cgctggcatc aggggcccgc cagcaagccc  
2160  
tcattcacct tctgggccc agccctgccg cggagcggcg gatccccccg ggcattggct  
2220  
gggctgggtt tgaatgaaac gacctgaact gtcaaaaaaa aaaaaaaaaa aaaaa  
2275

&lt;210&gt; 4518

<211> 650  
 <212> PRT  
 <213> Homo sapiens

<400> 4518

```

Thr Ser Ser Arg Ser Arg Ala Glu Leu Leu Thr Ala Phe Phe Ser Ala
 1           5           10           15
Thr Ala Asp Ala Ala Ser Pro Phe Pro Ala Cys Lys Pro Val Val Val
          20           25           30
Val Ser Ser Leu Leu Leu Gln Glu Glu Glu Pro Leu Ala Gly Gly Lys
          35           40           45
Pro Gly Ala Asp Gly Gly Ser Leu Glu Ala Val Arg Leu Gly Pro Ser
          50           55           60
Ser Gly Leu Leu Val Asp Trp Leu Glu Met Leu Asp Pro Glu Val Val
65           70           75           80
Ser Ser Cys Pro Asp Leu Gln Leu Arg Leu Leu Phe Ser Arg Arg Lys
          85           90           95
Gly Lys Gly Gln Ala Gln Val Pro Ser Phe Arg Pro Tyr Leu Leu Thr
          100          105          110
Leu Phe Thr His Gln Ser Ser Trp Pro Thr Leu His Gln Cys Ile Arg
          115          120          125
Val Leu Leu Gly Lys Ser Arg Glu Gln Arg Phe Asp Pro Ser Ala Ser
          130          135          140
Leu Asp Phe Leu Trp Ala Cys Ile His Val Pro Arg Ile Trp Gln Gly
145          150          155          160
Arg Asp Gln Arg Thr Pro Gln Lys Arg Arg Glu Glu Leu Val Leu Arg
          165          170          175
Val Gln Gly Pro Glu Leu Ile Ser Leu Val Glu Leu Ile Leu Ala Glu
          180          185          190
Ala Glu Thr Arg Ser Gln Asp Gly Asp Thr Ala Ala Cys Ser Leu Ile
          195          200          205
Gln Ala Arg Leu Pro Leu Leu Ser Cys Cys Cys Gly Asp Asp Glu
          210          215          220
Ser Val Arg Lys Val Thr Glu His Leu Ser Gly Cys Ile Gln Gln Trp
225          230          235          240
Gly Asp Ser Val Leu Gly Arg Arg Cys Arg Asp Leu Leu Leu Gln Leu
          245          250          255
Tyr Leu Gln Arg Pro Glu Leu Arg Val Pro Val Pro Glu Val Leu Leu
          260          265          270
His Ser Glu Gly Ala Ala Ser Ser Ser Val Cys Lys Leu Asp Gly Leu
          275          280          285
Ile His Arg Phe Ile Thr Leu Leu Ala Asp Thr Ser Asp Ser Arg Ala
          290          295          300
Leu Glu Asn Arg Gly Ala Asp Ala Ser Met Ala Cys Arg Lys Leu Ala
305          310          315          320
Val Ala His Pro Leu Leu Leu Leu Arg His Leu Pro Met Ile Ala Ala
          325          330          335
Leu Leu His Gly Arg Thr His Leu Asn Phe Gln Glu Phe Arg Gln Gln
          340          345          350
Asn His Leu Ser Cys Phe Leu His Val Leu Gly Leu Leu Glu Leu Leu
          355          360          365
Gln Pro His Val Phe Arg Ser Glu His Gln Gly Ala Leu Trp Asp Cys
          370          375          380
Leu Leu Ser Phe Ile Arg Leu Leu Leu Asn Tyr Arg Lys Ser Ser Arg

```

```

385          390          395          400
His Leu Ala Ala Phe Ile Asn Lys Phe Val Gln Phe Ile His Lys Tyr
          405          410          415
Ile Thr Tyr Asn Ala Pro Ala Ala Ile Ser Phe Leu Gln Lys His Ala
          420          425          430
Asp Pro Leu His Asp Leu Ser Phe Asp Asn Ser Asp Leu Val Met Leu
          435          440          445
Lys Ser Leu Leu Ala Gly Leu Ser Leu Pro Ser Arg Asp Asp Arg Thr
          450          455          460
Asp Arg Gly Leu Asp Glu Glu Gly Glu Glu Glu Ser Ser Ala Gly Ser
465          470          475          480
Leu Pro Leu Val Ser Val Ser Leu Phe Thr Pro Leu Thr Ala Ala Glu
          485          490          495
Met Ala Pro Tyr Met Lys Arg Leu Ser Arg Gly Gln Thr Val Glu Gly
          500          505          510
Glu Ser Gly Pro Ala Ser Pro Thr Pro Asp Leu Leu Glu Val Leu Ser
          515          520          525
Asp Ile Asp Glu Met Ser Arg Arg Arg Pro Glu Ile Leu Ser Phe Phe
530          535          540
Ser Thr Asn Leu Gln Arg Leu Met Ser Ser Ala Glu Glu Cys Cys Arg
545          550          555          560
Asn Leu Ala Phe Ser Leu Ala Leu Arg Ser Met Gln Asn Ser Pro Ser
          565          570          575
Ile Ala Ala Ala Phe Leu Pro Thr Phe Met Tyr Cys Leu Gly Ser Gln
          580          585          590
Asp Phe Glu Val Val Gln Thr Ala Leu Arg Asn Leu Pro Glu Tyr Ala
595          600          605
Leu Leu Cys Gln Glu His Ala Ala Val Leu Leu His Arg Ala Phe Leu
610          615          620
Val Gly Met Tyr Gly Gln Met Asp Pro Ser Ala Gln Ile Ser Glu Ala
625          630          635          640
Leu Arg Ile Leu His Met Glu Ala Val Met
          645          650

```

&lt;210&gt; 4519

&lt;211&gt; 2326

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4519

```

gacagagtgc agccttttcc tcccctaata gaaaagccat tgccctcttt tcctccccta
60
atagaaaagc cattgccctc ttttctcca cccttaagaa gacctgcac tggtggacca
120
acagacaact atccggctta cggccagggg agcccctgca gctgcacaga accagtttct
180
tatgtatctg gcggttaattg ggaaagcttc tgagaaagtc catggggccg atgtatggga
240
gatgaatgtg gtcccggagg catccaaacg agggctgtgt ggtgtgctca tgtggagggg
300
tggaactacac tgcatactaa ctgtaagcag gccgagagac ccaataacca gcagaattgt
360
ttcaaagttt gcgattggca caaagagttg tacgactgga gactgggacc ttggaatcag
420

```



tgtcagcccg tgatttcaaa aagcctagag aaacctcttg agtgcattaa gggggaagaa  
480  
ggtattcagg tgagggagat agcgtgcatc cagaaagaca aagacattcc tgcggaggat  
540  
atcatctgtg agtactttga gcccagcct ctctggagc aggcttgccct cattccttgc  
600  
cagcaagatt gcatcgtgtc tgaattttct gcctgggccg aatgctccaa gacctgcggc  
660  
agcgggctcc agcaccggac gcgtcatgtg gtggcgcccc cgcagttcgg aggctctggc  
720  
tgtccaaacc tgacggagtt ccaggtgtgc caatccagtc catgcgaggc cgaggagctc  
780  
aggtacagcc tgcattgtggg gccctggagc acctgctcaa tgccccactc ccgacaagta  
840  
agacaagcaa ggagacgcgg gaagaataaa gaacgggaaa aggaccgcag caaaggagta  
900  
aaggatccag aagcccgca gcttattaag aaaaagagaa acagaaacag gcagaacaga  
960  
caagagaaca aatattggga catccagatt ggatatcaga ccagagaggt tatgtgcatt  
1020  
aacaagacgg ggaaagctgc tgatttaagc ttttgccagc aagagaagct tccaatgacc  
1080  
ttccagtcct gtgtgatcac caaagagtgc caggtttccg agtggtcaga gtggagcccc  
1140  
tgctcaaaaa catgccatga catggtgtcc cctgcaggca ctctgtgaag gacacgaacc  
1200  
atcaggcagt ttcccattgg cagtgaaaag gagtgtccag aatttgaaga aaaagaaccc  
1260  
tgtttgtctc aaggagatgg agttgtcccc tgtgccacgt atggctggag aactacagag  
1320  
tggactgagt gccgtgtgga ccctttgctc agtcagcagg acaagaggcg cggcaaccag  
1380  
acggccctct gtggaggggg catccagacc cgagaggtgt actgcgtgca ggccaacgaa  
1440  
aacctcctct cacaattaag taccacaag aacaaagaag cctcaaagcc aatggactta  
1500  
aaattatgca ctggacctat ccctaatact acacagctgt gccacattcc ttgtccaact  
1560  
gaatgtgaag tttcaccttg gtcagcttgg ggaccttgta cttatgaaaa ctgtaatgat  
1620  
ccgcaaggga aaaaaggctt caaactgagg aagcggcgca ttaccaatga gccactgga  
1680  
ggctctgggt taaccggaaa ctgccctcac ttactggaag ccattccctg tgaagagcct  
1740  
gcctgttatg actggaaagc ggtgagactg ggagactgcg agccagataa cggaaaggag  
1800  
tgtgtccag gcacgcaagt tcaagaggtt gtgtgcatca acagtgatgg agaagaagtt  
1860  
gacagacagc tgtgcagaga tgccatcttc cccatccctg tggcctgtga tgccccatgc  
1920  
ccgaaagact gtgtgctcag cacatggtct acgtggctct cctgctcaca cacctgctca  
1980  
gggaaaacga cagaaggga acagatacga gcacgatcca ttctggccta tgcgggtgaa  
2040

gaagggtgagt cgccagcttc agacgccatc taggttcggt tcaaaagtta gtgtgcatct  
 2100  
 tttttgtgta gcctggaaaa gatgatattc tatgaaagtc aacaaccaga aattcagcca  
 2160  
 tccaagattt aatatctggt gatgtgttga gcaatttgat tctgtccccc aaaattaatc  
 2220  
 ttgaaaatgg atctctaaca aaggagaaaag acttttttaa agtgaactca ttttgctttt  
 2280  
 tcctaccacc ttaatatata tttaactctt tgctccaaaa aaaaaa  
 2326

<210> 4520

<211> 617

<212> PRT

<213> Homo sapiens

<400> 4520

Pro	Trp	Gly	Arg	Cys	Met	Gly	Asp	Glu	Cys	Gly	Pro	Gly	Gly	Ile	Gln
1				5					10					15	
Thr	Arg	Ala	Val	Trp	Cys	Ala	His	Val	Glu	Gly	Trp	Thr	Thr	Leu	His
			20					25					30		
Thr	Asn	Cys	Lys	Gln	Ala	Glu	Arg	Pro	Asn	Asn	Gln	Gln	Asn	Cys	Phe
	35						40				45				
Lys	Val	Cys	Asp	Trp	His	Lys	Glu	Leu	Tyr	Asp	Trp	Arg	Leu	Gly	Pro
	50					55				60					
Trp	Asn	Gln	Cys	Gln	Pro	Val	Ile	Ser	Lys	Ser	Leu	Glu	Lys	Pro	Leu
65					70					75				80	
Glu	Cys	Ile	Lys	Gly	Glu	Glu	Gly	Ile	Gln	Val	Arg	Glu	Ile	Ala	Cys
			85					90						95	
Ile	Gln	Lys	Asp	Lys	Asp	Ile	Pro	Ala	Glu	Asp	Ile	Ile	Cys	Glu	Tyr
		100						105					110		
Phe	Glu	Pro	Lys	Pro	Leu	Leu	Glu	Gln	Ala	Cys	Leu	Ile	Pro	Cys	Gln
	115						120					125			
Gln	Asp	Cys	Ile	Val	Ser	Glu	Phe	Ser	Ala	Trp	Ser	Glu	Cys	Ser	Lys
	130					135				140					
Thr	Cys	Gly	Ser	Gly	Leu	Gln	His	Arg	Thr	Arg	His	Val	Val	Ala	Pro
145					150					155					160
Pro	Gln	Phe	Gly	Gly	Ser	Gly	Cys	Pro	Asn	Leu	Thr	Glu	Phe	Gln	Val
			165					170						175	
Cys	Gln	Ser	Ser	Pro	Cys	Glu	Ala	Glu	Glu	Leu	Arg	Tyr	Ser	Leu	His
		180						185					190		
Val	Gly	Pro	Trp	Ser	Thr	Cys	Ser	Met	Pro	His	Ser	Arg	Gln	Val	Arg
	195						200					205			
Gln	Ala	Arg	Arg	Arg	Gly	Lys	Asn	Lys	Glu	Arg	Glu	Lys	Asp	Arg	Ser
	210					215					220				
Lys	Gly	Val	Lys	Asp	Pro	Glu	Ala	Arg	Glu	Leu	Ile	Lys	Lys	Lys	Arg
225					230					235				240	
Asn	Arg	Asn	Arg	Gln	Asn	Arg	Gln	Glu	Asn	Lys	Tyr	Trp	Asp	Ile	Gln
			245					250						255	
Ile	Gly	Tyr	Gln	Thr	Arg	Glu	Val	Met	Cys	Ile	Asn	Lys	Thr	Gly	Lys
		260						265					270		
Ala	Ala	Asp	Leu	Ser	Phe	Cys	Gln	Gln	Glu	Lys	Leu	Pro	Met	Thr	Phe
	275						280					285			
Gln	Ser	Cys	Val	Ile	Thr	Lys	Glu	Cys	Gln	Val	Ser	Glu	Trp	Ser	Glu

```

      290              295              300
Trp Ser Pro Cys Ser Lys Thr Cys His Asp Met Val Ser Pro Ala Gly
305              310              315              320
Thr Arg Val Arg Thr Arg Thr Ile Arg Gln Phe Pro Ile Gly Ser Glu
      325              330              335
Lys Glu Cys Pro Glu Phe Glu Glu Lys Glu Pro Cys Leu Ser Gln Gly
      340              345              350
Asp Gly Val Val Pro Cys Ala Thr Tyr Gly Trp Arg Thr Thr Glu Trp
      355              360              365
Thr Glu Cys Arg Val Asp Pro Leu Leu Ser Gln Gln Asp Lys Arg Arg
      370              375              380
Gly Asn Gln Thr Ala Leu Cys Gly Gly Gly Ile Gln Thr Arg Glu Val
385              390              395              400
Tyr Cys Val Gln Ala Asn Glu Asn Leu Leu Ser Gln Leu Ser Thr His
      405              410              415
Lys Asn Lys Glu Ala Ser Lys Pro Met Asp Leu Lys Leu Cys Thr Gly
      420              425              430
Pro Ile Pro Asn Thr Thr Gln Leu Cys His Ile Pro Cys Pro Thr Glu
      435              440              445
Cys Glu Val Ser Pro Trp Ser Ala Trp Gly Pro Cys Thr Tyr Glu Asn
      450              455              460
Cys Asn Asp Pro Gln Gly Lys Lys Gly Phe Lys Leu Arg Lys Arg Arg
465              470              475              480
Ile Thr Asn Glu Pro Thr Gly Gly Ser Gly Leu Thr Gly Asn Cys Pro
      485              490              495
His Leu Leu Glu Ala Ile Pro Cys Glu Glu Pro Ala Cys Tyr Asp Trp
      500              505              510
Lys Ala Val Arg Leu Gly Asp Cys Glu Pro Asp Asn Gly Lys Glu Cys
      515              520              525
Gly Pro Gly Thr Gln Val Gln Glu Val Val Cys Ile Asn Ser Asp Gly
      530              535              540
Glu Glu Val Asp Arg Gln Leu Cys Arg Asp Ala Ile Phe Pro Ile Pro
545              550              555              560
Val Ala Cys Asp Ala Pro Cys Pro Lys Asp Cys Val Leu Ser Thr Trp
      565              570              575
Ser Thr Trp Ser Ser Cys Ser His Thr Cys Ser Gly Lys Thr Thr Glu
      580              585              590
Gly Lys Gln Ile Arg Ala Arg Ser Ile Leu Ala Tyr Ala Gly Glu Glu
      595              600              605
Gly Glu Ser Pro Ala Ser Asp Ala Ile
      610              615

```

&lt;210&gt; 4521

&lt;211&gt; 1071

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4521

```

nagattccta taaaggatca tgaattagat gggtagtaga tttatccaca atgataaaga
60
tcagaagaaa tgaaataatg ccttcaaacg actgaggaaa aataattatt aacctataat
120
ttataccaat ataaacaatt actcaggaaa aaaagaaaaat aaaaacttgc aagggctaaa
180

```

ataacttgct taccaccaa gatgcttgct ctaagaactg tgaagggatt caagaggaaa  
 240  
 agtacacca gagagggctc atacatgtcc tctccccctc ctctccacc accaggacac  
 300  
 acagaaactg cctcctcttt tcagccctct cccttctcag ctgactttga gctacaaata  
 360  
 tcccttctct acttggagag cccatttca ttacaggaat ttgctttgag ttttattatc  
 420  
 attttagtct atgtcttaga ttgggctgct ataacaaggt gccataggct gagcggctta  
 480  
 aacaacaaac actcatatcc cacagttaca gaggctgaga agcctggggg caaggtacca  
 540  
 gcatggctctg attctgttct ggaggctggg aaatccaaga tggaagcact ggtaggtttg  
 600  
 gtgtctggga gggcttctct ctgcttccaa gatggtgcct tgtcgctgca tcttccagag  
 660  
 ggaaggaatg ctgtgtcctt gcagcacaga agaaacacat ctgaaaagaa atcaagcaga  
 720  
 aaagttgaaa ataaagagat ggaatatata tatgaaaact actacatata ggaagggatg  
 780  
 tagcaaagac acagagagaa tataatttaa ggcaaaaagc ttcaatagga tttcaaagca  
 840  
 aaccttgcac actaaaaaaa ggaaaccaa aataaaccaa aagaaaccga aaaccatgaa  
 900  
 cttgcaggag aattttccaa agccgtaatt ataatgagag tgtttttaag tctataagaa  
 960  
 attaatatat caaacaata aagattaata agaatttgga atttgatga aatggcaaag  
 1020  
 gaaaagccag gcgtgggtggc ttacgcctgt aatgccagca ctttgggagg c  
 1071

&lt;210&gt; 4522

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4522

Met	Leu	Ala	Leu	Arg	Thr	Val	Lys	Gly	Phe	Lys	Arg	Lys	Ser	Thr	Pro
1				5					10					15	
Arg	Glu	Gly	Ser	Tyr	Met	Ser	Ser	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Gly
			20					25					30		
His	Thr	Glu	Thr	Ala	Ser	Ser	Phe	Gln	Pro	Ser	Pro	Phe	Ser	Ala	Asp
			35				40					45			
Phe	Glu	Leu	Gln	Ile	Ser	Leu	Leu	Tyr	Leu	Glu	Ser	Pro	Ile	Ser	Leu
			50			55					60				
Gln	Glu	Phe	Ala	Leu	Ser	Phe	Ile	Ile	Ile	Leu	Val	Tyr	Val	Leu	Asp
65				70						75				80	
Trp	Ala	Ala	Ile	Thr	Arg	Cys	His	Arg	Leu	Ser	Gly	Leu	Asn	Asn	Lys
			85					90					95		
His	Ser	Tyr	Pro	Thr	Val	Thr	Glu	Ala	Glu	Lys	Pro	Gly	Val	Lys	Val
			100					105				110			
Pro	Ala	Trp	Ser	Asp	Ser	Val	Leu	Glu	Ala	Gly	Lys	Ser	Lys	Met	Glu
			115				120					125			
Ala	Leu	Val	Gly	Leu	Val	Ser	Gly	Arg	Ala	Ser	Leu	Cys	Phe	Gln	Asp

```
<210> 4524
<211> 262
<212> PRT
```

&lt;213&gt; Homo sapiens

&lt;400&gt; 4524

Ala Leu Tyr Ile Leu Val Cys Thr Arg Asp Ser Ser Ala Arg Leu Leu  
 1 5 10 15  
 Gly Lys Thr Lys Asp Thr Pro Arg Leu Ser Leu Xaa Leu Val Ile Leu  
 20 25 30  
 Gly Val Ile Phe Met Asn Gly Asn Arg Ala Ser Glu Ala Val Leu Trp  
 35 40 45  
 Glu Ala Leu Arg Lys Met Gly Leu Arg Pro Gly Val Arg His Pro Phe  
 50 55 60  
 Leu Gly Asp Leu Arg Lys Leu Ile Thr Asp Asp Phe Val Lys Gln Lys  
 65 70 75 80  
 Tyr Leu Glu Tyr Lys Lys Ile Pro Asn Ser Asn Pro Pro Glu Tyr Glu  
 85 90 95  
 Phe Leu Trp Gly Leu Arg Ala Arg His Glu Thr Ser Lys Met Arg Val  
 100 105 110  
 Leu Arg Phe Ile Ala Gln Asn Gln Asn Arg Asp Pro Arg Glu Trp Lys  
 115 120 125  
 Ala His Phe Leu Glu Ala Val Asp Asp Ala Phe Lys Thr Met Asp Val  
 130 135 140  
 Asp Met Ala Glu Glu His Ala Arg Ala Gln Met Arg Ala Gln Met Asn  
 145 150 155 160  
 Ile Gly Asp Glu Ala Leu Ile Gly Arg Trp Ser Trp Asp Asp Ile Gln  
 165 170 175  
 Val Glu Leu Leu Thr Trp Asp Glu Asp Gly Asp Phe Gly Asp Ala Trp  
 180 185 190  
 Ala Arg Ile Pro Phe Ala Phe Trp Ala Arg Tyr His Gln Tyr Ile Leu  
 195 200 205  
 Asn Ser Asn Arg Ala Asn Arg Arg Ala Thr Trp Arg Ala Gly Val Ser  
 210 215 220  
 Ser Gly Thr Asn Gly Gly Ala Ser Thr Ser Val Leu Asp Gly Pro Ser  
 225 230 235 240  
 Thr Ser Ser Thr Ile Arg Thr Arg Asn Ala Ala Arg Ala Gly Ala Ser  
 245 250 255  
 Phe Phe Ser Trp Ile Gln  
 260

&lt;210&gt; 4525

&lt;211&gt; 1731

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4525

nngaaccatg gcattctcca ggctctgacc acagaagctt atgaatggga gccacgtgtt  
 60  
 gtgagtacag aggtgggtcag agcccaagaa gaatgggaag ctgtggacac catccagcca  
 120  
 gagacagggga gccaagctag ctcagagcag cctgggcagc taatctcctt cagtgaggcc  
 180  
 ctgcagcact tccagactgt ggacctttcc cccttcaaga aaagaatcca gccaaactatt  
 240  
 cgaaggactg ggctcgccgc cctccgacac tacctcttcg ggcctccaaa gctccaccag  
 300

cgcttcggg aagaaagga cttggtcctg accattgctc agtgtggcct ggatagccaa  
360  
gacccagtgc atggccgagt cctccagacc atctataaga agctgaccgg ctccaagttt  
420  
gactgtgccc ttcattgaaa ccactgggag gacctgggct ttcagggagc gaatccagcc  
480  
acagacctga gaggcgcagg ctcccttgcc ctccctgcac tgctctacct agtgatggac  
540  
tcaaagacct tgccgatggc gcaggagatt ttccgcctgt ctcgtcacca catccagcaa  
600  
ttccctttct gtttgatgtc cgtgaacatc acccacattg ccatccaggc cttgagagag  
660  
gagtgtctct ccagagagtg taatcggcag cagaagggtca tccccgtggg gaacagcttc  
720  
tatgccgcca cattcctcca cctcgcacat gtctggagga cacagcggaa gaccatctca  
780  
gactcgggct ttgtcctcaa aggtgtgctc tttcttctgg ggaggcctag gctgaatgca  
840  
cagtgtccca ggtccagaga gcccaagggtg gttgctagac tggttttggc tgcagttctt  
900  
ccccatccac actttctcaa attccagctt accaaaatct ccatcaccca cccctggag  
960  
tctgctagtt ctcccttctc tgccctgact gtcgcccttt tctggcttta tacttatgac  
1020  
aagcatatat tctgatcaaa aattgggagc cagggtccaa tagttggact attcaaagtt  
1080  
gcaattgtgc agacaaggta gagtgtgtgg tccctgtggc tgtagctggc tccctagcct  
1140  
acctctctgg tgatctctcc atctgaggct ccttcacttt ctctccatgg gataggggtt  
1200  
gggggtactc cctagagctg ctaggcttga ggccttgact gttgtgtcac ccagagcccc  
1260  
ctcaagcctt ctgctcccca attctctctg ttgcagagtt ggaagtattg gccaaaga  
1320  
gcccacggcg ggtgctcaa gacctggag ctgtacttgg ccagggtgtc aaagggacag  
1380  
gcctccttgt tgggagcaca gaagtgtat gggccagaag cccctccctt caaggatctc  
1440  
accttcacag gtgagagtga cctgcagtct cactcatccg aaggcgtatg gctgatctga  
1500  
cctccgagat gaatggaggc ttaaaggctg agctgcaggg gctttcaggg ggtcagtgga  
1560  
gccatgtcag gagcctggcc aggccgcacc ccttgctgtc tcagcagatg ggatatagga  
1620  
agctcctggg cttagctgtg ggaagccaag taccctcacc ggcatgggac atgaggggca  
1680  
gctagacttc acccccttcc cgcagacctg cctccagagc aaggagaatt c  
1731

&lt;210&gt; 4526

&lt;211&gt; 344

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4526

```

Xaa Asn His Gly Ile Leu Gln Ala Leu Thr Thr Glu Ala Tyr Glu Trp
 1           5           10           15
Glu Pro Arg Val Val Ser Thr Glu Val Val Arg Ala Gln Glu Glu Trp
          20           25           30
Glu Ala Val Asp Thr Ile Gln Pro Glu Thr Gly Ser Gln Ala Ser Ser
          35           40           45
Glu Gln Pro Gly Gln Leu Ile Ser Phe Ser Glu Ala Leu Gln His Phe
          50           55           60
Gln Thr Val Asp Leu Ser Pro Phe Lys Lys Arg Ile Gln Pro Thr Ile
65           70           75           80
Arg Arg Thr Gly Leu Ala Ala Leu Arg His Tyr Leu Phe Gly Pro Pro
          85           90           95
Lys Leu His Gln Arg Leu Arg Glu Glu Arg Asp Leu Val Leu Thr Ile
          100          105          110
Ala Gln Cys Gly Leu Asp Ser Gln Asp Pro Val His Gly Arg Val Leu
          115          120          125
Gln Thr Ile Tyr Lys Lys Leu Thr Gly Ser Lys Phe Asp Cys Ala Leu
          130          135          140
His Gly Asn His Trp Glu Asp Leu Gly Phe Gln Gly Ala Asn Pro Ala
145          150          155          160
Thr Asp Leu Arg Gly Ala Gly Phe Leu Ala Leu Leu His Leu Leu Tyr
          165          170          175
Leu Val Met Asp Ser Lys Thr Leu Pro Met Ala Gln Glu Ile Phe Arg
          180          185          190
Leu Ser Arg His His Ile Gln Gln Phe Pro Phe Cys Leu Met Ser Val
          195          200          205
Asn Ile Thr His Ile Ala Ile Gln Ala Leu Arg Glu Glu Cys Leu Ser
          210          215          220
Arg Glu Cys Asn Arg Gln Gln Lys Val Ile Pro Val Val Asn Ser Phe
225          230          235          240
Tyr Ala Ala Thr Phe Leu His Leu Ala His Val Trp Arg Thr Gln Arg
          245          250          255
Lys Thr Ile Ser Asp Ser Gly Phe Val Leu Lys Gly Val Leu Phe Leu
          260          265          270
Leu Gly Arg Pro Arg Leu Asn Ala Gln Cys Pro Arg Ser Arg Glu Pro
          275          280          285
Lys Val Val Ala Arg Leu Val Leu Ala Ala Val Leu Pro His Pro His
          290          295          300
Phe Leu Lys Phe Gln Leu Thr Lys Ile Ser Ile Thr His Pro Leu Glu
305          310          315          320
Ser Ala Ser Ser Pro Phe Ser Ala Leu Thr Val Ala Leu Phe Trp Ser
          325          330          335
Tyr Thr Tyr Asp Lys His Ile Phe
          340

```

&lt;210&gt; 4527

&lt;211&gt; 885

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4527

```

nnntttttttt tttttttttt tttttttttt tttttttttt ttttttttttg cagagacatg
60

```



gctgcattta ttgttcccag cccggcgaga aggtgttccc agaaaggttc cttgggtcac  
 120  
 ctgcccaccc agccttggtt ctgggctgcc atgtcccccac gggggcagga gagaggcaca  
 180  
 agtcacagtc aggcaaggga gcctcagcgt cctgggcggt ggctgttggg gtccctccag  
 240  
 tcttcacctg ggaccctcgg ccaggctggg acagcatcca ggaggcgagg ctgcatggtc  
 300  
 cagcgggtggg tgcagggtggc aacaggctcgg cgggctgtgc aggttccaaa aggagctctc  
 360  
 ggggttgacac tgggtgagac cagccccggg gccagcaggg gaatgagcgg tggagcaggg  
 420  
 ggttgctggg cactgggggtg ggccccatct cctgtccttc cctcatggct gctggaaggg  
 480  
 ccgcctccct ggctcagcat catctcagat tccgggactc aaacaccgtc tcctcgtcgc  
 540  
 tgtccagcga ggccatctcc gtggggtcct cagtgttggc gaggaggccg tatcgctcc  
 600  
 gctgaggctt cttcaacctt aacgcccggg tcaggaagta gagcgcggtc aggccgcaga  
 660  
 agcccaggat cacgtagaag gagcgcgtca gcgccgagcc cgacgcccc ggcgacgcg  
 720  
 tgtgcgtgct gttgtgtggc gcgccggct ggctcccggt cgtcacggcc ggcggcggcg  
 780  
 acaacgtgac ctggcggggg cagcggcgag cctcttcggc accgcacggc agcgccgcca  
 840  
 gcagcagcgc cagcaggagc agcagcagcg gcggctgcag cacgc  
 885

&lt;210&gt; 4528

&lt;211&gt; 206

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4528

Xaa	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe
1				5				10					15		
Cys	Arg	Asp	Met	Ala	Ala	Phe	Ile	Val	Pro	Ser	Pro	Ala	Arg	Arg	Cys
			20					25					30		
Ser	Gln	Lys	Gly	Ser	Leu	Gly	His	Leu	Pro	Thr	Gln	Pro	Trp	Leu	Trp
			35				40					45			
Ala	Ala	Met	Ser	Pro	Arg	Gly	Gln	Glu	Arg	Gly	Thr	Ser	His	Ser	Gln
			50				55				60				
Ala	Arg	Glu	Pro	Gln	Arg	Pro	Gly	Arg	Trp	Leu	Leu	Gly	Ser	Leu	Gln
					70					75				80	
Ser	Ser	Pro	Gly	Thr	Leu	Gly	Gln	Ala	Gly	Thr	Ala	Ser	Arg	Arg	Arg
				85				90					95		
Gly	Cys	Met	Val	Gln	Arg	Trp	Val	Gln	Val	Ala	Thr	Gly	Arg	Arg	Ala
			100					105					110		
Val	Gln	Val	Pro	Lys	Gly	Ala	Leu	Gly	Leu	Ala	Leu	Gly	Glu	Thr	Ser
			115				120					125			
Pro	Gly	Ala	Ser	Arg	Gly	Met	Ser	Gly	Gly	Ala	Gly	Gly	Cys	Trp	Ala
			130			135				140					
Leu	Gly	Trp	Ala	Pro	Ser	Pro	Val	Leu	Pro	Ser	Trp	Leu	Leu	Glu	Gly

```

145          150          155          160
Pro Pro Pro Trp Leu Ser Ile Ile Ser Asp Ser Gly Thr Gln Thr Pro
          165          170          175
Ser Pro Arg Arg Cys Pro Ala Arg Pro Ser Pro Trp Gly Pro Gln Cys
          180          185          190
Trp Arg Gly Gly Arg Ile Ala Ser Ala Glu Ala Ser Ser Thr
          195          200          205

```

<210> 4529  
 <211> 546  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4529
nngagagctg agaggtggaa aatggcgctg acgtgagcgc gaactcgcac tgcccagagg
60
gtggcgcgcg cctaagctgc agccgcccga gccgcagaaa caagaggccg agccgtgtcg
120
aagatggagg agaaacctc agggcccatc ccggacatgc tggccactgc agagcccagc
180
tccagtgaga ccgacaagga ggtgttgtcc ccggctgtgc cagctgcagc cccctcctcc
240
tccatgtcgg aggagccagg ccctgagcag gcagccacac cgccagtggg gaacgtggag
300
gggctggagg gatgcagcag ggctcctccc cagccccaga cagctgccag tctggccccg
360
gaccagccc tggcctgacc agcatagtct ccgggaccag cgaggacctg cggcctccca
420
gacgacgccc acctccaggg aagcaaatac cttgctccag ccctggctgc tgcctcagtt
480
ttcccagcgt ccgtgacctg gcacagcatc tgccaacca ctgcccgcg agccctatgc
540
agtctc
546

```

<210> 4530  
 <211> 84  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4530
Met Glu Glu Lys Pro Ser Gly Pro Ile Pro Asp Met Leu Ala Thr Ala
1          5          10          15
Glu Pro Ser Ser Glu Thr Asp Lys Glu Val Leu Ser Pro Ala Val
          20          25          30
Pro Ala Ala Ala Pro Ser Ser Ser Met Ser Glu Glu Pro Gly Pro Glu
          35          40          45
Gln Ala Ala Thr Pro Pro Val Gly Asn Val Glu Gly Leu Glu Gly Cys
          50          55          60
Ser Arg Ala Pro Pro Gln Pro Gln Thr Ala Ala Ser Leu Ala Pro Asp
65          70          75          80
Pro Ala Leu Ala

```

<210> 4531  
 <211> 1414  
 <212> DNA  
 <213> Homo sapiens

<400> 4531  
 nncacgtggc ctccgagcag ctcagggcgc ccttgaaagt tcttgatct gcgggttatg  
 60  
 gccggtcctt tgcagggcgg tggggcccgg gccctggacc tactccgggg cctgccgcgt  
 120  
 gtgagcctgg ccaacttaaa gccgaatccc ggctccaaga aaccggagag aagaccaaga  
 180  
 ggtcggagaa gaggtagaaa atgtggcaga ggccataaag gagaaaggca aagaggaacc  
 240  
 cggccccgct tgggctttga gggaggccag actccatttt acatccgaat cccaaaatac  
 300  
 gggtttaacg aaggacatag tttcagacgc cagtataagc ctttgagtct caatagactg  
 360  
 cagtatctta ttgatttggg tcgtgttgat cctagtcaac ctattgactt aaccagctt  
 420  
 gtcaatggga gaggtgtgac catccagcca cttaaaaggg attatggtgt ccagctggtt  
 480  
 gaggagggtg ctgacacctt tacggcaaaa gttaatatg aagtacagtt ggcttcagaa  
 540  
 ctagctattg ctgccattga aaaaaatggt ggtgttgta ctacagcctt ctatgatcca  
 600  
 agaagtctgg acattgtatg caaacctgtt ccattcttct ttcgtggaca acccattcca  
 660  
 aaaagaatgc ttccaccaga agaactggta ccatattaca ctgatgcaa gaaccgtggg  
 720  
 tacctggcgg atcctgcaa atttcctgaa gcacgacttg aactcgccag gaagtatggt  
 780  
 tatatcttac ctgatatcac taaagatgaa ctcttcaaaa tgctctgtac taggaaggat  
 840  
 ccaaggcaga ttttctttgg tcttgctcca ggatgggtgg tgaatatggc cgataagaaa  
 900  
 atcctaaaac ctacagatga aaatctcctt aagtattata cctcatgaat tccgtccaa  
 960  
 ggaagcagag ttgttaaaga gtactggaat aggggctgaa ggatctatat tcccttattg  
 1020  
 cattttcctt atgtataatt ttccagatgg tgatgttact tttcagtgt ctcatatgtc  
 1080  
 tcattttcat ctaaaattaa atggcaggaa acaaggactg catagagaaa ctgagtctgt  
 1140  
 gtgggttctg tctcaaagat acaaactccc tgatagtcta tggaaggaaa atgacaacta  
 1200  
 ttttagaata tttctagttt gttttttcag tgatcttttc atccaggcct tgttactgtt  
 1260  
 acagatcaga atgaaatgca caagtggaat gggattgacc tgtaggcctg ctctgccgag  
 1320  
 atgagagcag atggaatgag ttggtgaccc ctcttaatat gtagcctcag ggaaacacgg  
 1380  
 ctacccaatg ccaagatggt aaaccctcac gcgt  
 1414

<210> 4532  
 <211> 296  
 <212> PRT  
 <213> Homo sapiens

<400> 4532  
 Met Ala Gly Pro Leu Gln Gly Gly Gly Ala Arg Ala Leu Asp Leu Leu  
 1 5 10 15  
 Arg Gly Leu Pro Arg Val Ser Leu Ala Asn Leu Lys Pro Asn Pro Gly  
 20 25 30  
 Ser Lys Lys Pro Glu Arg Arg Pro Arg Gly Arg Arg Arg Gly Arg Lys  
 35 40 45  
 Cys Gly Arg Gly His Lys Gly Glu Arg Gln Arg Gly Thr Arg Pro Arg  
 50 55 60  
 Leu Gly Phe Glu Gly Gly Gln Thr Pro Phe Tyr Ile Arg Ile Pro Lys  
 65 70 75 80  
 Tyr Gly Phe Asn Glu Gly His Ser Phe Arg Arg Gln Tyr Lys Pro Leu  
 85 90 95  
 Ser Leu Asn Arg Leu Gln Tyr Leu Ile Asp Leu Gly Arg Val Asp Pro  
 100 105 110  
 Ser Gln Pro Ile Asp Leu Thr Gln Leu Val Asn Gly Arg Gly Val Thr  
 115 120 125  
 Ile Gln Pro Leu Lys Arg Asp Tyr Gly Val Gln Leu Val Glu Glu Gly  
 130 135 140  
 Ala Asp Thr Phe Thr Ala Lys Val Asn Ile Glu Val Gln Leu Ala Ser  
 145 150 155 160  
 Glu Leu Ala Ile Ala Ala Ile Glu Lys Asn Gly Gly Val Val Thr Thr  
 165 170 175  
 Ala Phe Tyr Asp Pro Arg Ser Leu Asp Ile Val Cys Lys Pro Val Pro  
 180 185 190  
 Phe Phe Leu Arg Gly Gln Pro Ile Pro Lys Arg Met Leu Pro Pro Glu  
 195 200 205  
 Glu Leu Val Pro Tyr Tyr Thr Asp Ala Lys Asn Arg Gly Tyr Leu Ala  
 210 215 220  
 Asp Pro Ala Lys Phe Pro Glu Ala Arg Leu Glu Leu Ala Arg Lys Tyr  
 225 230 235 240  
 Gly Tyr Ile Leu Pro Asp Ile Thr Lys Asp Glu Leu Phe Lys Met Leu  
 245 250 255  
 Cys Thr Arg Lys Asp Pro Arg Gln Ile Phe Phe Gly Leu Ala Pro Gly  
 260 265 270  
 Trp Val Val Asn Met Ala Asp Lys Lys Ile Leu Lys Pro Thr Asp Glu  
 275 280 285  
 Asn Leu Leu Lys Tyr Tyr Thr Ser  
 290 295

<210> 4533  
 <211> 968  
 <212> DNA  
 <213> Homo sapiens

<400> 4533  
 acgcgtgccc agcacatgtg tgcacacgca gatgcaggag agaacacaca ccaccgtctc  
 60

tttgcacacg tgtgcccctg tccggacgcc ggggctgagg ccgatcgcgt cgggcagcgg  
 120  
 gcgcggcggc cccgcgcagc catggactgg ctcatgggga agtccaaagc caagcccaat  
 180  
 ggcaagaagc ccgctgcgga ggagaggaag gcctacctgg agcctgagca caccaaggcc  
 240  
 aggatcacccg acttccagtt caaggagctg gtggtgctgc cccgggagat cgacctcaac  
 300  
 gagtggctgg ccagcaacac aacaacattt ttccaccaca tcaacctgca gtatagcaca  
 360  
 atctcggagt tctgcacagg agagacgtgt cagacgatgg ccgtgtgcaa cacacagtac  
 420  
 tactggatatg acgagcgggg gaagaaggctc aagtgcacgg cccacagta cgttgacttc  
 480  
 gtcattgagct ccgtgcagaa gctggtgacg gatgaggacg tgttccccac aaaatacggc  
 540  
 agagaattcc ccagctcctt tgagtccctg gtgaggaaga tctgcagaca cctgttccac  
 600  
 gtgctggcac acatctactg ggcccacttc aaggagacgc tggccctgga gctgcacgga  
 660  
 cacttgaaca cgctctacgt ccacttcac cttttgtctc gggagttcaa cctgctggac  
 720  
 cccaaagaga ccgccatcat ggacgacctc accgaggtgc tatgcagcgg ggccggcggg  
 780  
 gtccacagtg ggggcagtgg ggatggggcc ggcagcgggg gcccgggagc acagaaccac  
 840  
 gtgaaggaga gatgagcccc ccgggcccga caggggcaca cgtgtgcaaa gagacggtgg  
 900  
 tgtgtgttct ctctgcac cgcgtgtgca cacatgtgct gggccctctc agacctcacc  
 960  
 acacgcgt  
 968

&lt;210&gt; 4534

&lt;211&gt; 284

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4534

Thr	Arg	Ala	Gln	His	Met	Cys	Ala	His	Ala	Asp	Ala	Gly	Glu	Asn	Thr
1				5					10					15	
His	His	Arg	Leu	Phe	Ala	His	Val	Cys	Pro	Cys	Pro	Asp	Ala	Gly	Ala
			20					25					30		
Glu	Ala	Asp	Arg	Val	Gly	Gln	Arg	Ala	Arg	Arg	Pro	Arg	Ala	Ala	Met
		35				40						45			
Asp	Trp	Leu	Met	Gly	Lys	Ser	Lys	Ala	Lys	Pro	Asn	Gly	Lys	Lys	Pro
	50				55						60				
Ala	Ala	Glu	Glu	Arg	Lys	Ala	Tyr	Leu	Glu	Pro	Glu	His	Thr	Lys	Ala
65				70					75					80	
Arg	Ile	Thr	Asp	Phe	Gln	Phe	Lys	Glu	Leu	Val	Val	Leu	Pro	Arg	Glu
			85					90						95	
Ile	Asp	Leu	Asn	Glu	Trp	Leu	Ala	Ser	Asn	Thr	Thr	Thr	Phe	Phe	His
		100					105						110		
His	Ile	Asn	Leu	Gln	Tyr	Ser	Thr	Ile	Ser	Glu	Phe	Cys	Thr	Gly	Glu

```

      115      120      125
Thr Cys Gln Thr Met Ala Val Cys Asn Thr Gln Tyr Tyr Trp Tyr Asp
      130      135      140
Glu Arg Gly Lys Lys Val Lys Cys Thr Ala Pro Gln Tyr Val Asp Phe
145      150      155      160
Val Met Ser Ser Val Gln Lys Leu Val Thr Asp Glu Asp Val Phe Pro
      165      170      175
Thr Lys Tyr Gly Arg Glu Phe Pro Ser Ser Phe Glu Ser Leu Val Arg
      180      185      190
Lys Ile Cys Arg His Leu Phe His Val Leu Ala His Ile Tyr Trp Ala
      195      200      205
His Phe Lys Glu Thr Leu Ala Leu Glu Leu His Gly His Leu Asn Thr
      210      215      220
Leu Tyr Val His Phe Ile Leu Phe Ala Arg Glu Phe Asn Leu Leu Asp
225      230      235      240
Pro Lys Glu Thr Ala Ile Met Asp Asp Leu Thr Glu Val Leu Cys Ser
      245      250      255
Gly Ala Gly Gly Val His Ser Gly Gly Ser Gly Asp Gly Ala Gly Ser
      260      265      270
Gly Gly Pro Gly Ala Gln Asn His Val Lys Glu Arg
      275      280

```

&lt;210&gt; 4535

&lt;211&gt; 473

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4535

```

cgactttttt tttttttttt ttttgagatg gagtctcggt ctgtcaccca ggctggagtg
60
cagtggcatg atcacagctc actgcaacct ctgcctccca ggttcaagca gttctctnng
120
ctcagcctcc cgagtagctg ggattacagg cgtccgccac cagccccggc taatttttgt
180
attttttagta gaaacggggg ttcaccatct cggccagggt ggtcttgaac tcctgaccto
240
atgatccatc cgccttggcc tcccaaagtg ctgggattac aggcattgagc taccgcgccc
300
ggccttgggt gcagattaac gggaatacct cccttggggt tcctaggtga cactgtgata
360
ttcggtatga cctcccttgc tctattcctt ggaagaagta caggcactgg tcaagagtgc
420
ccgggaccca cattgcctgg ttttgaatcc cagcacctcc acatgttacg cgt
473

```

&lt;210&gt; 4536

&lt;211&gt; 75

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4536

```

Arg Leu Phe Phe Phe Phe Phe Glu Met Glu Ser Arg Ser Val Thr
1      5      10      15
Gln Ala Gly Val Gln Trp His Asp His Ser Ser Leu Gln Pro Leu Pro

```

										20				25				30	
Pro	Arg	Phe	Lys	Gln	Phe	Ser	Xaa	Leu	Ser	Leu	Pro	Ser	Ser	Trp	Asp				
		35				40						45							
Tyr	Arg	Arg	Pro	Pro	Pro	Arg	Pro	Ala	Asn	Phe	Cys	Ile	Phe	Ser	Arg				
		50				55						60							
Asn	Gly	Val	Ser	Pro	Ser	Arg	Pro	Gly	Trp	Ser									
65				70						75									

```
<210> 4537
<211> 2811
<212> DNA
<213> Homo sapiens
```

<400>	> 4537				
naagcttggc	acgagggaaa	tgaagcctgt	gatttggact	ccacagtgtc	tgctcttgcc
60					
ctggcttttt	acctagcaaa	gacaactgag	gctgaggaag	tctttgtgcc	agttttaaat
120					
ataaaaacgtt	ctgaactacc	tctgcgaggt	gacattgtct	tctttcttca	gaaggttcat
180					
attccagaga	gtatcttgat	ttttcgggat	gagattgacc	tccatgcatt	ataccaggct
240					
ggccaactca	ccctcatcct	tgctgaccat	catatcttat	ccaaaagtga	cacagcccta
300					
gaggagnzca	gtagcagagg	tgctagacca	tcgacccatc	gagccgaaac	actgccctcc
360					
ctgnnccatg	tttcagttga	gctggtgggg	tcctgtgcta	ccctggtgac	cgagagaatc
420					
ctgcaggggg	caccagagat	cttggacagg	caaactgcag	cccttctgca	tggaaccatc
480					
atcctggact	gtgtcaacat	ggaccttaaa	attggaaagg	caaccccaaa	ggacagcaaa
540					
tatgtggaga	aactagaggc	ccttttccca	gacctacca	agagaaatga	tatatttgat
600					
tccctacaaa	aggcaaagt	tgatgtatca	ggactgacca	ctgagcagat	gctgagaaaa
660					
gaccagaaga	ctatctatag	acaaggcgtc	aagggtggcca	ttagtgcaat	atatatggat
720					
ttggaggcct	ttctgcagag	gtctaacctc	cttgcagatc	tccatgcttt	ctgccaggct
780					
cacagctatg	atgtcctggg	tgccatgact	atctttttca	acactcacia	tgagccagtg
840					
cggcagttgg	ctatttttctg	tccccatgtg	gcactccaaa	caacgatctg	tgaagtccctg
900					
gaacgctccc	actctccacc	cctgaagctg	acccctgcct	caagtaccca	ccctaacctc
960					
catgcctatc	ttcaaggcaa	caccaggtc	tctcgaaaga	aacttctgcc	cctgctccag
1020					
gaagccctgt	cagcatattt	tgactccatg	aagatccctt	caggacagcc	tgagacagca
1080					
gatgtgtcca	gggagcaagt	ggacaaggaa	ttggacaggg	caagtaactc	cctgatttct
1140					
ggactgagtc	aagatgagga	ggaccctccg	ctgcccccca	cgcccatgaa	cagcttgggtg
1200					

gatgagtgcc ctctagatca ggggctgcct aaactctctg ctgaggccgt ctctcgagaag  
 1260  
 tgcagtcaga tctcactgtc acagtctacc acagcctccc tgtccaagaa gtgactgttg  
 1320  
 agaggcgagg aggtagtggg tgaggctacc tgactcactt caaatgcatg ttttgagatg  
 1380  
 tttggagatt cagcaattct gtcttcattg ctccaggatc tggatatactg ttctcataaa  
 1440  
 actgagagga gaaaaaaagt gaaagaaaagc agctgcttta agaattgggtt tccacctttt  
 1500  
 cccctaatac tctaccaatc agacacattt tattatttaa atctgcacct ctctctattt  
 1560  
 tatttgccag gggcacgatg tgacatatct gcagtcccag cacagtggga caaaaagaat  
 1620  
 ttagacccca aaagtgtcct cggcatggat cttgaacaga accagtatct gtcattggaac  
 1680  
 tgaacattca tcatgtgtct ccatgtattc atttattcac ttgttcattc aagtatttat  
 1740  
 tgaatacctg cctcaagcta gagagaaaag agagtgcgct ttggaaattt attccagttt  
 1800  
 tcagcctaca gcagattatc agctcgggtga cttttctttc tgccaccatt taggtgatgg  
 1860  
 tgtttgattc agagatggct gaatttctat tcttagctta ttgtgactgt ttcagatcta  
 1920  
 gtttggaac agattagagg ccattgtctt ctgtcctgat cagggtggcct ggctgtttct  
 1980  
 ttggatccct ctgtcccaga gccaccaga accctgactc ttgagaatca agaaaacacc  
 2040  
 cagaaaggcc ttaatgacct cataggcact cttccaaaaa gacaacagaa ctggaatgag  
 2100  
 aggctgggt ctgtctcctg ccttagcagg cctatcaatt tcttgctaat ctcttttttt  
 2160  
 ccttgctcac attaaaagga agcatggagt tctaattgctc ccataaacta tgtatttttg  
 2220  
 caagacactt cactactcca ggtctcactt tcccactctg taaaacaggg tttggactag  
 2280  
 gtgttccctg gtattctgtg atctgcctct tgctgccatt ctttctctcc tctgcttctc  
 2340  
 tgtatttttc ttctgttata cctgggggtg ctgaggttca cttgattgtc tgtatttctg  
 2400  
 tgtggttgta gcaaggactc agcctcatgt agcacgaata ggggtgtggt tcatggcgtg  
 2460  
 ttgacccagc agagcactcc ctcccactaa cttgttctgc atgtgtagag tctccccatt  
 2520  
 ttttttaacg caaccctttc ccttttttcc taccacacag ctctgttcca tgtaagttgc  
 2580  
 caacagtttc actgaacagt ggggtatgtg atgggttttg catgacatct tcagtatgag  
 2640  
 ggggacagtt tgacttcact ttgaggggtg gatgtctgta gctatgtgga aggtaaaaat  
 2700  
 agtgggtgta tcatgaacca aaggaattta tgttttgtaa cttgggtact ttattttgca  
 2760  
 ttttggtata ctattaaata attttttctt gttaaaaaaa aaaaaaaaaa a  
 2811



<210> 4538  
 <211> 437  
 <212> PRT  
 <213> Homo sapiens

<400> 4538

Xaa	Ala	Trp	His	Glu	Gly	Asn	Glu	Ala	Cys	Asp	Leu	Asp	Ser	Thr	Val
1				5					10					15	
Ser	Ala	Leu	Ala	Leu	Ala	Phe	Tyr	Leu	Ala	Lys	Thr	Thr	Glu	Ala	Glu
		20						25					30		
Glu	Val	Phe	Val	Pro	Val	Leu	Asn	Ile	Lys	Arg	Ser	Glu	Leu	Pro	Leu
		35					40					45			
Arg	Gly	Asp	Ile	Val	Phe	Phe	Leu	Gln	Lys	Val	His	Ile	Pro	Glu	Ser
	50					55					60				
Ile	Leu	Ile	Phe	Arg	Asp	Glu	Ile	Asp	Leu	His	Ala	Leu	Tyr	Gln	Ala
65				70						75					80
Gly	Gln	Leu	Thr	Leu	Ile	Leu	Val	Asp	His	His	Ile	Leu	Ser	Lys	Ser
				85					90					95	
Asp	Thr	Ala	Leu	Glu	Glu	Xaa	Ser	Ser	Arg	Gly	Ala	Arg	Pro	Ser	Thr
			100					105					110		
His	Arg	Ala	Glu	Thr	Leu	Pro	Ser	Leu	Xaa	His	Val	Ser	Val	Glu	Leu
		115					120					125			
Val	Gly	Ser	Cys	Ala	Thr	Leu	Val	Thr	Glu	Arg	Ile	Leu	Gln	Gly	Ala
	130					135					140				
Pro	Glu	Ile	Leu	Asp	Arg	Gln	Thr	Ala	Ala	Leu	Leu	His	Gly	Thr	Ile
145					150					155					160
Ile	Leu	Asp	Cys	Val	Asn	Met	Asp	Leu	Lys	Ile	Gly	Lys	Ala	Thr	Pro
			165					170						175	
Lys	Asp	Ser	Lys	Tyr	Val	Glu	Lys	Leu	Glu	Ala	Leu	Phe	Pro	Asp	Leu
		180						185					190		
Pro	Lys	Arg	Asn	Asp	Ile	Phe	Asp	Ser	Leu	Gln	Lys	Ala	Lys	Phe	Asp
	195						200					205			
Val	Ser	Gly	Leu	Thr	Thr	Glu	Gln	Met	Leu	Arg	Lys	Asp	Gln	Lys	Thr
	210					215					220				
Ile	Tyr	Arg	Gln	Gly	Val	Lys	Val	Ala	Ile	Ser	Ala	Ile	Tyr	Met	Asp
225					230					235					240
Leu	Glu	Ala	Phe	Leu	Gln	Arg	Ser	Asn	Leu	Leu	Ala	Asp	Leu	His	Ala
			245						250					255	
Phe	Cys	Gln	Ala	His	Ser	Tyr	Asp	Val	Leu	Val	Ala	Met	Thr	Ile	Phe
		260						265					270		
Phe	Asn	Thr	His	Asn	Glu	Pro	Val	Arg	Gln	Leu	Ala	Ile	Phe	Cys	Pro
		275					280					285			
His	Val	Ala	Leu	Gln	Thr	Thr	Ile	Cys	Glu	Val	Leu	Glu	Arg	Ser	His
	290					295					300				
Ser	Pro	Pro	Leu	Lys	Leu	Thr	Pro	Ala	Ser	Ser	Thr	His	Pro	Asn	Leu
305					310					315					320
His	Ala	Tyr	Leu	Gln	Gly	Asn	Thr	Gln	Val	Ser	Arg	Lys	Lys	Leu	Leu
			325						330					335	
Pro	Leu	Leu	Gln	Glu	Ala	Leu	Ser	Ala	Tyr	Phe	Asp	Ser	Met	Lys	Ile
		340						345					350		
Pro	Ser	Gly	Gln	Pro	Glu	Thr	Ala	Asp	Val	Ser	Arg	Glu	Gln	Val	Asp
	355						360					365			
Lys	Glu	Leu	Asp	Arg	Ala	Ser	Asn	Ser	Leu	Ile	Ser	Gly	Leu	Ser	Gln

```

      370              375              380
Asp Glu Glu Asp Pro Pro Leu Pro Pro Thr Pro Met Asn Ser Leu Val
385              390              395              400
Asp Glu Cys Pro Leu Asp Gln Gly Leu Pro Lys Leu Ser Ala Glu Ala
              405              410              415
Val Phe Glu Lys Cys Ser Gln Ile Ser Leu Ser Gln Ser Thr Thr Ala
              420              425              430
Ser Leu Ser Lys Lys
              435

```

<210> 4539  
 <211> 331  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4539
gtgcacggag gaaagtctca tgagcagcct gaatgggggc tctgttcctt ctgagctgga
60
tgggctggac tccgagaaag accagaagcc tgggggaaaa ccaaagggtg atcaatgaac
120
tcacctggaa actccagcaa gagcagaggc aggtggagga gctgaggatg cagcttcaga
180
agcagaaaag gaataactgt tcagagaaga agccgctgcc tttcctggct gctccatca
240
agcaagaaga ggctgtctcc agctgtcctt ttgcatccca agtacctgtg aaaagacaaa
300
gcagcagctc aaagtgtcac ccaccggett g
331

```

<210> 4540  
 <211> 99  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4540
Met Gly Ala Leu Phe Leu Leu Ser Trp Met Gly Trp Thr Pro Arg Lys
1      5      10      15
Thr Arg Ser Leu Gly Glu Asn Gln Arg Val Ile Asn Glu Leu Thr Trp
      20      25      30
Lys Leu Gln Gln Glu Gln Arg Gln Val Glu Glu Leu Arg Met Gln Leu
      35      40      45
Gln Lys Gln Lys Arg Asn Asn Cys Ser Glu Lys Lys Pro Leu Pro Phe
      50      55      60
Leu Ala Ala Ser Ile Lys Gln Glu Glu Ala Val Ser Ser Cys Pro Phe
65      70      75      80
Ala Ser Gln Val Pro Val Lys Arg Gln Ser Ser Ser Ser Lys Cys His
      85      90      95
Pro Pro Ala

```

<210> 4541  
 <211> 452  
 <212> DNA  
 <213> Homo sapiens

<400> 4541  
 actagtcacc tcttctatca gatgatcatc tggatcatat tcttttagat taataatggc  
 60  
 cacaggcaga tccaggggatg taactgcttc agcaagaact gttgcgaatc ctttcgctgt  
 120  
 tccagtctga gaaccataaa aaatcttcac tccagacaca aagatgtctt tctcttgaag  
 180  
 ggagacataa ccatttgctca tcaaatacctg agctgctttt ggaacagatt tttcctgtaa  
 240  
 gttcttgccc tgcgtcttga tgacaatctg gacacaaatc caaaggctaa tgctaacagc  
 300  
 aaagcccaaa taaatgtaaa acctgtttat ccacaatgat attaaagggtg agaagaggtc  
 360  
 ccatgtatcc gcagagggat ccatectcct cagagccgac aggagactag gatctcggac  
 420  
 ctggagagcc cgatgattcg cactgggtact gc  
 452

<210> 4542  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

<400> 4542  
 Met Asp Pro Ser Ala Asp Thr Trp Asp Leu Phe Ser Pro Leu Ile Ser  
 1 5 10 15  
 Leu Trp Ile Asn Arg Phe Tyr Ile Tyr Leu Gly Phe Ala Val Ser Ile  
 20 25 30  
 Ser Leu Trp Ile Cys Val Gln Ile Val Ile Lys Thr Gln Gly Lys Asn  
 35 40 45  
 Leu Gln Glu Lys Ser Val Pro Lys Ala Ala Gln Asp Leu Met Thr Asn  
 50 55 60  
 Gly Tyr Val Ser Leu Gln Glu Lys Asp Ile Phe Val Ser Gly Val Lys  
 65 70 75 80  
 Ile Phe Tyr Gly Ser Gln Thr Gly Thr Ala Lys Gly Phe Ala Thr Val  
 85 90 95  
 Leu Ala Glu Ala Val Thr Ser Leu Asp Leu Pro Val Ala Ile Ile Asn  
 100 105 110  
 Leu Lys Glu Tyr Asp Pro Asp Asp His Leu Ile Glu Glu Val Thr Ser  
 115 120 125

<210> 4543  
 <211> 815  
 <212> DNA  
 <213> Homo sapiens

<400> 4543  
 cggccgccga ggactggcct gactcggaca tttcatcctg tggacactaa ggccaaacac  
 60  
 agggaggagg gagagcgagt cactgcaggt ccctggcctg cggctccgcc gtggctgcct  
 120  
 gaggccccgc gcaccaatgc tttgcacttt gcctcgcccg acaccctgcy ggccagagct  
 180

cctctgccgc ccaccgggct aacccttccg ggcctcacca ctcccagagt gctctgctta  
 240  
 tccggccact gactccggct cctcgggaagc agggccaccc tcctgaaatg gcttggaacg  
 300  
 gggctttcca ctggtgccct cccagacga ttgcttgtaa tgggccagt cctcgccagg  
 360  
 gacacagcgg cagccccctg tagcttggtg ctgttcagaa acaagtccag cccaggtagg  
 420  
 gcagagggct ctgactgggg acccaagaag ggctggctgt gccgccaccg ctgccccgtc  
 480  
 accatcactg tgctgaagag ctgaggctg ggcccacccg cgccggcccc acgttcctcc  
 540  
 ccgggctcag gtcagggcca gggagtgacc agaaggtgct gaccctgtgg cctgactggc  
 600  
 ccagagctca cccctgaaca tgagcaagcg caaagaaacc cccatccctg ctcccaaaaa  
 660  
 agggcgcccc caaggccatt ttgaaggtgg ggggaagccc ggattccgag aaaccgcaac  
 720  
 cagccgtcta cctcaggaag ctgctaggg aggagcgcat tctatgtgac taatgcggac  
 780  
 tggcctgcac cgcctacgga gagaagacaa cgcgt  
 815

<210> 4544  
 <211> 150  
 <212> PRT  
 <213> Homo sapiens

<400> 4544  
 Met Val Thr Gly Gln Arg Trp Arg His Ser Gln Pro Phe Leu Gly Pro  
 1 5 10 15  
 Gln Ser Glu Pro Ser Ala Leu Pro Gly Leu Asp Leu Phe Leu Asn Ser  
 20 25 30  
 His Lys Leu Gln Gly Ala Ala Val Ser Leu Ala Arg His Trp Pro  
 35 40 45  
 Ile Thr Ser Asn Arg Leu Gly Arg Ala Pro Val Glu Ser Pro Val Pro  
 50 55 60  
 Ser His Phe Arg Arg Val Ala Leu Leu Pro Arg Ser Arg Ser Gln Trp  
 65 70 75 80  
 Pro Asp Lys Gln Ser His Ser Gly Val Val Arg Pro Gly Arg Val Ser  
 85 90 95  
 Pro Val Gly Gly Arg Gly Ala Leu Ala Arg Arg Val Ser Gly Glu Ala  
 100 105 110  
 Lys Cys Lys Ala Leu Val Arg Gly Ala Ser Gly Ser His Gly Gly Ala  
 115 120 125  
 Ala Gly Gln Gly Pro Ala Val Thr Arg Ser Pro Ser Ser Leu Cys Leu  
 130 135 140  
 Ala Leu Val Ser Thr Gly  
 145 150

<210> 4545  
 <211> 3568  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4545
nntgtacaag ctttagtagg tggttatatt ggtggacttg tccccaaatt aaagtatgat
60
tcaaagagtc agtcagaaga acaggaagag cctgctaaaa ctgatcaggc tgtcagcaaa
120
gacagaaatg cagaggagaa aaagcgttta tctcttcagc gagaaaagat tatcgcaagg
180
gtgagtattg ataacaggac ccgggcatta gttcaggcat taagaagaac aactgaccca
240
aagctctgca ttactagggt tgaagaactg actttttcatc ttctagaatt tctgaagga
300
aaaggagtgg ctgtcaagga aagaattatt ccatatztat tacgactgag acaaattaag
360
gatgaaactc ttcaggctgc agttagagaa attttggccc taattggcta tgtggatcca
420
gtgaaagga gaggaatccg aattctctca attgatggtg gaggaacaag gggcgtggtt
480
gctctccaga ccctacgaaa attagttgaa cttactcaga agccagttca tcagctcttt
540
gattacattt gtggtgtaag cacagggtgcc atattagctt tcatgttggg gttgtttcat
600
atgcccttgg atgaatgtga ggaactttat cgaaaattag gatcagatgt attttcacaa
660
aatgtcattg ttggaacagt aaaaatgagt tggagccatg cattttatga cagtcaaaca
720
tggaagaaaca ttcttaagga taggatggga tctgcactga tgattgaaac agcaagaaac
780
cccacatgtc ctaaggtagc tgctgtaagt accatagtaa atagagggat aacacccaaa
840
gcttttgtgt tcagaaacta tggtcatttt cctggaatca actctcatta tttgggaggc
900
tgtcagtata aaatgtggca ggccattaga gcctcatctg ctgctccagg ctactttgca
960
gaatatgcat tgggaaatga tcttcatcaa gatggagggt tgcttctgaa taacccttcg
1020
gcattagcta tgcatgagtg taaatgtctt tggccagatg tgccgttaga gtgcatagta
1080
tccttgggca ctggacgtta tgagagtgat gtgagaaaca cggtaacata cacaagcttg
1140
aaaactaaac tttctaattg tatcaacagt gctacagata cagaagaagt ccatataatg
1200
cttgatggcc tgttacctcc tgacacctat ttagattca atcctgtaat gtgtgaaaac
1260
atacctctag atgaaagtcg aaatgaaaag ctggatcagc tgcagttgga agggttgaaa
1320
tacatagaaa gaaatgaaca aaaaatgaaa aaagttgcaa aaatattaag tcaagaaaaa
1380
acaactctgc agaaaattaa tgattggata aaattaaaaa ctgatatgta tgaaggactt
1440
ccattctttt caaaattgtg atgagtatat gcttatgttc tcataaatga aggtctgttt
1500
agaagatcaa ccacattcaa taaggaattg tggggttcga catgagttaa ctttgaaata
1560

```

cgtatgaatt ctggagaatc ctgaaaaaga cgggtgcttca accagcttgc atagcacaga  
1620  
gaatattctt gggtacagaa ttcatatggg aactaggctt ttaagatggt aataattagc  
1680  
taagcttttag taacccttac tgtgctagta gatttttagta gatattgggtg ttatattggt  
1740  
tgatgtttga aaatatatta atatatgtgc cgaacaagaa accgaaagct atattgtact  
1800  
gtgtattttt acttttagtcc tcataatcat gttgaattta tgtgatcatt gattttattt  
1860  
catatggaaa agctaatttc ttcttaaatt tacattacct aatattctca ctagctatgt  
1920  
tctccaatcc aactgcctt ttattgtaat atcatctaaa tagatgcaga aaaatggaat  
1980  
tttctctatt aaagtatttt acatttgaca taaaaaagaa ccagatacag ttttctattc  
2040  
agatatgttt attttaacat tgtttgggtt aaaaagggtga agttccagtc aaccactttt  
2100  
taccctgaa atttcaagat aatgctatat taacttttcc agatctaacc ctagcttacc  
2160  
cttccctggt ataaaatggt ttgaacttac tgaggagata ttcccatcat taacaaaaat  
2220  
aaactattta aataaaaaag gatagagggt caacatattt agtcattatg gaagtgcata  
2280  
tcaaagtcat atgccacttc acaccaacca catttgtcaa aataaaaaaa aaaaaacagg  
2340  
aaataggaat tggtgataag aatgtggagg tattggaacc cctgtacatt gctggtgaga  
2400  
atgtaaaatg gtggtgctac cacagaaaac acattgggtc tttgttaaaa tgtaaacata  
2460  
aaatttcctt acaagtcagt atgagtactt cttaattgta tacctgagat aactgaaaac  
2520  
atatgttttt taaaataact tttgtccaga tgttcatagc atcatttttt actgtagttg  
2580  
aaaaatggaa acaaactaaa tgtccatcac ctactaaata aaatgtggca tagccataca  
2640  
atggaatatt gtaaactctgt gaaaatgaat gaacaaatta cataagggat taacctcaaa  
2700  
aacattatac taagtgaag aagccagata caaaaggcca atattgtatg attctatttt  
2760  
tgtgaagtgc ccagaatagg caattttata tggaaagaaa gcagagtagt ggtttccagg  
2820  
ggctgagtga gggaaaatgg ggaataacca cttaatgtgt acagagtttc tttttaggat  
2880  
gatgaaaatg ttctagaatc agtggtaatg gtaataaaac attgggaata tactaaaagc  
2940  
cactgaattg taccctttaa gatgggttaa atgggttaatt ttatgttatg taaacattat  
3000  
ttctctaata aagtagattt tcagcaacaa agggccatt agaatggaag catactctga  
3060  
agggttatta gttatcaact cctaacatgc aaaatatttt taggtagcat ttttatatag  
3120  
aagaaattat attcaggcat attaagcatt gagtgtcatt attattgatg tataatggat  
3180

tcccatccaa cattatgggtg tgatttttaaa agaagagcca ggaaatcaaa agtattttct  
 3240  
 ctggggctta atctttgatc agatcattga aaaacttatg gcttccagat ttgtggggga  
 3300  
 cagatacttt tactcattat ccaatgctct aaggccaccc agagagactg gattatctac  
 3360  
 attgactatt cacatttcct tagatatatt tatttgaatg atggcttcta caaagtagag  
 3420  
 aagtctgtca ttatgagaga taaagccagc tgggcttctg ggttgggtgg ggtcttggag  
 3480  
 aacttttctg tctagctaaa ggattgtaag tgcacccatc agcactctgt aaaaacacac  
 3540  
 caatcagcac tctgtgtcta gctaaagg  
 3568

<210> 4546

<211> 380

<212> PRT

<213> Homo sapiens

<400> 4546

Glu	Arg	Ile	Ile	Pro	Tyr	Leu	Leu	Arg	Leu	Arg	Gln	Ile	Lys	Asp	Glu	1	5	10	15
Thr	Leu	Gln	Ala	Ala	Val	Arg	Glu	Ile	Leu	Ala	Leu	Ile	Gly	Tyr	Val	20	25	30	
Asp	Pro	Val	Lys	Gly	Arg	Gly	Ile	Arg	Ile	Leu	Ser	Ile	Asp	Gly	Gly	35	40	45	
Gly	Thr	Arg	Gly	Val	Val	Ala	Leu	Gln	Thr	Leu	Arg	Lys	Leu	Val	Glu	50	55	60	
Leu	Thr	Gln	Lys	Pro	Val	His	Gln	Leu	Phe	Asp	Tyr	Ile	Cys	Gly	Val	65	70	75	80
Ser	Thr	Gly	Ala	Ile	Leu	Ala	Phe	Met	Leu	Gly	Leu	Phe	His	Met	Pro	85	90	95	
Leu	Asp	Glu	Cys	Glu	Glu	Leu	Tyr	Arg	Lys	Leu	Gly	Ser	Asp	Val	Phe	100	105	110	
Ser	Gln	Asn	Val	Ile	Val	Gly	Thr	Val	Lys	Met	Ser	Trp	Ser	His	Ala	115	120	125	
Phe	Tyr	Asp	Ser	Gln	Thr	Trp	Glu	Asn	Ile	Leu	Lys	Asp	Arg	Met	Gly	130	135	140	
Ser	Ala	Leu	Met	Ile	Glu	Thr	Ala	Arg	Asn	Pro	Thr	Cys	Pro	Lys	Val	145	150	155	160
Ala	Ala	Val	Ser	Thr	Ile	Val	Asn	Arg	Gly	Ile	Thr	Pro	Lys	Ala	Phe	165	170	175	
Val	Phe	Arg	Asn	Tyr	Gly	His	Phe	Pro	Gly	Ile	Asn	Ser	His	Tyr	Leu	180	185	190	
Gly	Gly	Cys	Gln	Tyr	Lys	Met	Trp	Gln	Ala	Ile	Arg	Ala	Ser	Ser	Ala	195	200	205	
Ala	Pro	Gly	Tyr	Phe	Ala	Glu	Tyr	Ala	Leu	Gly	Asn	Asp	Leu	His	Gln	210	215	220	
Asp	Gly	Gly	Leu	Leu	Leu	Asn	Asn	Pro	Ser	Ala	Leu	Ala	Met	His	Glu	225	230	235	240
Cys	Lys	Cys	Leu	Trp	Pro	Asp	Val	Pro	Leu	Glu	Cys	Ile	Val	Ser	Leu	245	250	255	
Gly	Thr	Gly	Arg	Tyr	Glu	Ser	Asp	Val	Arg	Asn	Thr	Val	Thr	Tyr	Thr				

```
<210> 4547
<211> 2211
<212> DNA
<213> Homo sapiens
```

```

<400> 4547
ngttttcattc tcttgttctt ctacagtggg gacagattcc tctgaactta tgtctgggtc
60
tggcttttct tcttccccctt cagcaagctt gcttttggga ggagtttccc gggtagaatt
120
cacagttcga cgaatcggca tggtgctatc ttctaccttc tctgagctcg gcggctggga
180
ctggaggaca gcggtggcgg aggcgactag cggcggcggg agcggcgccg agaggccgtg
240
cgggacgcgg gcgccaggac cggccgaacg cagaggttga ttcttcacca cactgaaacc
300
attaggaaaa atccttgtgg ttaacagcag aggccttcaga gtgtaacctg tactcgggcc
360
tagaaattat ttaaaatggc gactgatacg tctcaagggtg aactcgtcca tcctaaggca
420
ctcccactta tagtaggagc tcagctgatc cacgcggaca agttaggtga gaaggtagaa
480
gatagcacca tgccgattcg tcgaactgtg aattctaccc gggaaactcc tcccaaaagc
540
aagcttgctg aaggggagga agaaaagcca gaaccagaca taagttcaga ggaatctgtc
600
tccactgtag aagaacaaga gaatgaaact ccacctgcta cttcgagtga ggcagagcag
660
ccaaaggggg aacctgagaa tgaagagaag gaagaaaata agtcttctga ggaaaccaa
720
aaggatgaga aagatcagtc taaagaaaag gagaagaaag tgaaaaaac aattccttcc
780
tgggctaccc tttctgccag ccagctagcc agggcccaga aacaaacacc gatggcttct
840
tccccacgtc ccaagatgga tgcaatctta actgaggcca ttaaggcatg cttccagaag
900
agtggtgcat cagtggttgc tattcgaaaa tacatcatcc ataagtatcc ttctctggag
960

```



ctggagagaa ggggttatct ccttaaacia gcaactgaaaa gagaattaaa tagaggagtc  
 1020  
 atcaaacagg tattacacaa tgtaaagga aaagggtgctt ctggaagttt tgttggtggt  
 1080  
 cagaaatcaa gaaaaacacc tcagaaatcc agaaacagaa agaataggag ctctgcagtg  
 1140  
 gatccagaac cacaagtaaa attggaggat gtcctccac tggcctttac tcgcctttgt  
 1200  
 gaacctaaag aagcttccta cagtctcatc aggaaatatg tgtctcagta ttatcctaag  
 1260  
 cttagagtgg acatcaggcc tcagctgttg aagaacgctc tgcagagagc agtagagagg  
 1320  
 ggccagttag aacagataac tggcaaagggt gcttcgggga cattccagct gaagaaatca  
 1380  
 ggggagaaac cctgcttggt tggaaagcctg atggaatatg caatcttgct tgccattgct  
 1440  
 gccatgaatg agccgaagac ctgctctacc actgctctga agaagtatgt cctagagaat  
 1500  
 caccagga ccaattctaa ctatcaaagt catttgctga aaaaaaccct gcagaaatgc  
 1560  
 gaaaagaatg ggtggatgga acagatctct gggaaagggt tcagtggcac cttccagctc  
 1620  
 tgttttccct attatcccag ccagaggatt ctgtttccga agaaagagcc agatgattct  
 1680  
 agagatgagg atgaagatga agatgagtca tcagaagaag actctgagga tgaagagccg  
 1740  
 ccacctaa gaagggtgca gaagaaaacc ccagccaagt cccagggga ggccgcatct  
 1800  
 gtgaagcaga gaggggtccaa acctgcacct aaagtctcag ctgccagcg ggggaaagct  
 1860  
 aggccttgct ctaagaaagc acctcctaag gccaaaacgc ctgccaagaa gaccagacc  
 1920  
 tcattccacag tcattcaagaa acctagtggg ggctcctcaa agaagcctgc aaccagtgc  
 1980  
 agaaaggaag taaaattgcc gggcaagggc aaatccacca tgaagaagtc tttcagagt  
 2040  
 aaaaagtaaa ttttatagga aaaaagggtg tcatgatgaa attcaaaatc ttattttcta  
 2100  
 aggtcagtgt gcatttggtt agttttgatg cttttcaaatt tacattattt tcctcccta  
 2160  
 tgaacattgt ggggagggac tctaaataaa ccagtttagg catttgctag c  
 2211

&lt;210&gt; 4548

&lt;211&gt; 515

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4548

Arg	Thr	Val	Asn	Ser	Thr	Arg	Glu	Thr	Pro	Pro	Lys	Ser	Lys	Leu	Ala
1				5					10					15	
Glu	Gly	Glu	Glu	Glu	Lys	Pro	Glu	Pro	Asp	Ile	Ser	Ser	Glu	Glu	Ser
			20					25					30		
Val	Ser	Thr	Val	Glu	Glu	Gln	Glu	Asn	Glu	Thr	Pro	Pro	Ala	Thr	Ser

35 40 45  
 Ser Glu Ala Glu Gln Pro Lys Gly Glu Pro Glu Asn Glu Glu Lys Glu  
 50 55 60  
 Glu Asn Lys Ser Ser Glu Glu Thr Lys Lys Asp Glu Lys Asp Gln Ser  
 65 70 75 80  
 Lys Glu Lys Glu Lys Lys Val Lys Lys Thr Ile Pro Ser Trp Ala Thr  
 85 90 95  
 Leu Ser Ala Ser Gln Leu Ala Arg Ala Gln Lys Gln Thr Pro Met Ala  
 100 105 110  
 Ser Ser Pro Arg Pro Lys Met Asp Ala Ile Leu Thr Glu Ala Ile Lys  
 115 120 125  
 Ala Cys Phe Gln Lys Ser Gly Ala Ser Val Val Ala Ile Arg Lys Tyr  
 130 135 140  
 Ile Ile His Lys Tyr Pro Ser Leu Glu Leu Glu Arg Arg Gly Tyr Leu  
 145 150 155 160  
 Leu Lys Gln Ala Leu Lys Arg Glu Leu Asn Arg Gly Val Ile Lys Gln  
 165 170 175  
 Val Leu His Asn Val Lys Gly Lys Gly Ala Ser Gly Ser Phe Val Val  
 180 185 190  
 Val Gln Lys Ser Arg Lys Thr Pro Gln Lys Ser Arg Asn Arg Lys Asn  
 195 200 205  
 Arg Ser Ser Ala Val Asp Pro Glu Pro Gln Val Lys Leu Glu Asp Val  
 210 215 220  
 Leu Pro Leu Ala Phe Thr Arg Leu Cys Glu Pro Lys Glu Ala Ser Tyr  
 225 230 235 240  
 Ser Leu Ile Arg Lys Tyr Val Ser Gln Tyr Tyr Pro Lys Leu Arg Val  
 245 250 255  
 Asp Ile Arg Pro Gln Leu Leu Lys Asn Ala Leu Gln Arg Ala Val Glu  
 260 265 270  
 Arg Gly Gln Leu Glu Gln Ile Thr Gly Lys Gly Ala Ser Gly Thr Phe  
 275 280 285  
 Gln Leu Lys Lys Ser Gly Glu Lys Pro Leu Leu Gly Gly Ser Leu Met  
 290 295 300  
 Glu Tyr Ala Ile Leu Ser Ala Ile Ala Ala Met Asn Glu Pro Lys Thr  
 305 310 315 320  
 Cys Ser Thr Thr Ala Leu Lys Lys Tyr Val Leu Glu Asn His Pro Gly  
 325 330 335  
 Thr Asn Ser Asn Tyr Gln Met His Leu Leu Lys Lys Thr Leu Gln Lys  
 340 345 350  
 Cys Glu Lys Asn Gly Trp Met Glu Gln Ile Ser Gly Lys Gly Phe Ser  
 355 360 365  
 Gly Thr Phe Gln Leu Cys Phe Pro Tyr Tyr Pro Ser Pro Gly Val Leu  
 370 375 380  
 Phe Pro Lys Lys Glu Pro Asp Asp Ser Arg Asp Glu Asp Glu Asp Glu  
 385 390 395 400  
 Asp Glu Ser Ser Glu Glu Asp Ser Glu Asp Glu Glu Pro Pro Pro Lys  
 405 410 415  
 Arg Arg Leu Gln Lys Lys Thr Pro Ala Lys Ser Pro Gly Lys Ala Ala  
 420 425 430  
 Ser Val Lys Gln Arg Gly Ser Lys Pro Ala Pro Lys Val Ser Ala Ala  
 435 440 445  
 Gln Arg Gly Lys Ala Arg Pro Leu Pro Lys Lys Ala Pro Pro Lys Ala  
 450 455 460  
 Lys Thr Pro Ala Lys Lys Thr Arg Pro Ser Ser Thr Val Ile Lys Lys

465		470		475		480									
Pro	Ser	Gly	Gly	Ser	Lys	Lys	Pro	Ala	Thr	Ser	Ala	Arg	Lys	Glu	
				485				490					495		
Val	Lys	Leu	Pro	Gly	Lys	Gly	Lys	Ser	Thr	Met	Lys	Lys	Ser	Phe	Arg
			500					505					510		
Val	Lys	Lys													
			515												

<210> 4549  
 <211> 2927  
 <212> DNA  
 <213> Homo sapiens

<400> 4549  
 gatctgtgcg tgggggatgt ggtctgtctc cgcaaggaca acatcgcccc agccgacatg  
 60  
 ctcttgctgg ccagcacgga gcccagcagc ctgtgctatg tggagacggt ggacattgac  
 120  
 ggggagacca acttgaagtt cagacaggcc ctgatggtca cccacaaaga actggccact  
 180  
 ataaagaaga tggcgctcctt tcaaggcaca gtgacgtgtg aggcgcctaa cagtcggatg  
 240  
 caccacttcg tgggggtgcct ggaatggaat gacaagaaat actccctgga cattggcaac  
 300  
 ctctctctcc gaggtgcag gattcgcaac acagacacct gctatggact ggtcatttat  
 360  
 gctgatggat acatgtttgt aggttttgac acaaaaatta tgaagaactg tggcaagatc  
 420  
 catttgaaga gaaccaagct ggacctcctg atgaacaagc tggtggttgt gatcttcac  
 480  
 tccgtggtgc ttgtctgcct ggtgttgcc ttcggcttcg gtttctcagt caaagaattc  
 540  
 aaagaccacc actactacct ctcgggggtg catgggagca gcgtggccgc agagtccctc  
 600  
 ttctgtctct ggagcttct catcctgctc agcgtcacca tcccgatgtc catgttcac  
 660  
 ctgtccgagt tcactacct ggggaacagc gtcttcatcg actgggacgt gcagatgtac  
 720  
 tacaagccgc aggacgtgcc tgccaaggcc cgcagcacca gcctcaacga ccacctgggc  
 780  
 cagggtggaat acatcttctc ggacaagacg ggcacgctca cgcagaacat cttgacctc  
 840  
 aacaagtgtc gcatcagcgg ccgctcttat ggagaacccc tacctctgga acaagtctgc  
 900  
 cgacgggaag ctgtctctcc acaatgcggc cctgctgcac ctctgtcgga ccaacgggga  
 960  
 cgaggccgtg cgggagttct ggcgcctgct ggccatctgc cacacggtga tgaccagctg  
 1020  
 ttgtaccagg cggcctcccc cgacgagggg gcgctggtca ccgcagcccg gaacttcggc  
 1080  
 tacgtgttcc tgtccgcac ccaggacacc gtcacgatca tggagctggg ggaggaacgg  
 1140  
 gtctaccagg tcctggccat aatggacttc aacagcacgc gcaaacggat gtcggtgctg  
 1200

gttcgaaagc cagagggcgc catctgcctg tacaccaagg gcgccgacac ggtcatcttc  
1260  
gaacgcttgc acaggagggg ggcaatggaa tttgccacag aggaggcctt ggctgccttt  
1320  
gccaggaga ccctgcggac actgtgcctg gcctacaggg aggtggctga ggacatttac  
1380  
gaggactggc agcagcgcca ccaggaggcc agcctcctgc tgcagaaccg ggcacaggcc  
1440  
ctgcaacagg tgtacaacga gatggagcag gacctcaggc tgctgggagc cacagccatc  
1500  
gaggacagac tccaggacgg tgtccctgaa accatcaaata gtctcaagaa gagcaacatc  
1560  
aaaatatggg tgctcaccgg ggacaagcag gaaacggctg tgaacatcgg ctctgcctgc  
1620  
gagctgctgt cagagaatat gctcattctg gaggagaagg agattagccg catcctggag  
1680  
acctactggg aaaacagtaa caaccttcta accaggaggt ccctgtcgca ggtcaagctg  
1740  
gccttgggtca ttaacggaga ctctctggac aaactgctgg tgtccctgcg gaaggagccg  
1800  
cgcgccctgg cgcagaacgt gaacatggac gaggcgtggc aggagctcgg ccagtccagg  
1860  
agggatttcc tctacgccag gcgcctgtcc ctgctgtgcc ggagggttcgg gctcccgtg  
1920  
gctgcaccgc cagcccagga ctccagagcc cgccgtagct ccgagggtgct gcaggagcgc  
1980  
gccttcgtgg acctggcgtc caagtgccag gcgggtcatct gctgccgcgt gacgcccag  
2040  
cagaaggccc tgatcgtggc cctgggtcaag aagtaccacc aggtgggtgac cctggccatc  
2100  
ggggacggtg ccaacgacat caacatgatc aagaccgcgg acgtgggctg ggggctggcg  
2160  
ggccaggagg gcatgcaggc agttcagaac agcgacttcg tgctcggcca gttctgcttc  
2220  
ctgcagcgcc tctgctggt gcacggccgc tggctcctacg tcgggatctg caagttcctg  
2280  
cgctacttct tctacaagag catggccagc atgatgggtg aggtctggtt tgctgtctac  
2340  
aacggcttca ccggccagga cgtgagcgca gagcagagcc tggagaagcc ggagctgtac  
2400  
gtgggtggggc agaaggacga gctcttcaac tactgggtct tcgtccaagc catcgcccat  
2460  
ggtgtgacca cctctctggt caactttctt atgacactgt ggatcagccg cgacacggcg  
2520  
ggacccgcca gcttcagcga ccaccagtcc tttgcggtcg tgggtggcct gtcttgctg  
2580  
ctgtccatca ccatggaggt cattcttatc atcaagtact ggaccgcct gtgcgtggcg  
2640  
accatcctcc tcagccttgg tttctacgcc atcatgacta ccaccacca gagcttctgg  
2700  
ctcttcagaa tgccgacctc agcgtgatgt cctctccctc catcctgctg gtggctcctg  
2760  
tgagtgtgtc cataaacacc ttccctgtcc tggccctccg agtcattctc ccagccctca  
2820

aggagctacg tgccaagggtg aggtgggcct gggcctgggg tctcatctg gtacattcca  
 2880  
 ggacctggt tggggagccg tgcagggcgt agggactgca aggtgtc  
 2927

<210> 4550  
 <211> 908  
 <212> PRT  
 <213> Homo sapiens

<400> 4550  
 Asp Leu Cys Val Gly Asp Val Val Cys Leu Arg Lys Asp Asn Ile Val  
 1 5 10 15  
 Pro Ala Asp Met Leu Leu Leu Ala Ser Thr Glu Pro Ser Ser Leu Cys  
 20 25 30  
 Tyr Val Glu Thr Val Asp Ile Asp Gly Glu Thr Asn Leu Lys Phe Arg  
 35 40 45  
 Gln Ala Leu Met Val Thr His Lys Glu Leu Ala Thr Ile Lys Lys Met  
 50 55 60  
 Ala Ser Phe Gln Gly Thr Val Thr Cys Glu Ala Pro Asn Ser Arg Met  
 65 70 75 80  
 His His Phe Val Gly Cys Leu Glu Trp Asn Asp Lys Lys Tyr Ser Leu  
 85 90 95  
 Asp Ile Gly Asn Leu Leu Leu Arg Gly Cys Arg Ile Arg Asn Thr Asp  
 100 105 110  
 Thr Cys Tyr Gly Leu Val Ile Tyr Ala Asp Gly Tyr Met Phe Val Gly  
 115 120 125  
 Phe Asp Thr Lys Ile Met Lys Asn Cys Gly Lys Ile His Leu Lys Arg  
 130 135 140  
 Thr Lys Leu Asp Leu Leu Met Asn Lys Leu Val Val Val Ile Phe Ile  
 145 150 155 160  
 Ser Val Val Leu Val Cys Leu Val Leu Ala Phe Gly Phe Gly Phe Ser  
 165 170 175  
 Val Lys Glu Phe Lys Asp His His Tyr Tyr Leu Ser Gly Val His Gly  
 180 185 190  
 Ser Ser Val Ala Ala Glu Ser Phe Phe Val Phe Trp Ser Phe Leu Ile  
 195 200 205  
 Leu Leu Ser Val Thr Ile Pro Met Ser Met Phe Ile Leu Ser Glu Phe  
 210 215 220  
 Ile Tyr Leu Gly Asn Ser Val Phe Ile Asp Trp Asp Val Gln Met Tyr  
 225 230 235 240  
 Tyr Lys Pro Gln Asp Val Pro Ala Lys Ala Arg Ser Thr Ser Leu Asn  
 245 250 255  
 Asp His Leu Gly Gln Val Glu Tyr Ile Phe Ser Asp Lys Thr Gly Thr  
 260 265 270  
 Leu Thr Gln Asn Ile Leu Thr Phe Asn Lys Cys Cys Ile Ser Gly Arg  
 275 280 285  
 Val Tyr Gly Glu Pro Leu Pro Leu Glu Gln Val Arg Arg Arg Glu Ala  
 290 295 300  
 Ala Leu Pro Gln Cys Gly Pro Ala Ala Pro Arg Ala Asp Gln Arg Gly  
 305 310 315 320  
 Arg Gly Arg Ala Gly Val Leu Ala Pro Ala Gly His Leu Pro His Gly  
 325 330 335  
 Asp Asp Gln Leu Leu Tyr Gln Ala Ala Ser Pro Asp Glu Gly Ala Leu

3746

770		775		780
Gly Gln Asp Val Ser Ala Glu Gln Ser Leu Glu Lys Pro Glu Leu Tyr				
785		790		800
Val Val Gly Gln Lys Asp Glu Leu Phe Asn Tyr Trp Val Phe Val Gln				
	805		810	815
Ala Ile Ala His Gly Val Thr Thr Ser Leu Val Asn Phe Phe Met Thr				
	820		825	830
Leu Trp Ile Ser Arg Asp Thr Ala Gly Pro Ala Ser Phe Ser Asp His				
	835		840	845
Gln Ser Phe Ala Val Val Val Ala Leu Ser Cys Leu Leu Ser Ile Thr				
	850		855	860
Met Glu Val Ile Leu Ile Ile Lys Tyr Trp Thr Ala Leu Cys Val Ala				
865		870		880
Thr Ile Leu Leu Ser Leu Gly Phe Tyr Ala Ile Met Thr Thr Thr Thr				
	885		890	895
Gln Ser Phe Trp Leu Phe Arg Met Pro Thr Ser Ala				
	900		905	

&lt;210&gt; 4551

&lt;211&gt; 361

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4551

gcgcgccgac cccacaggtc gggctctgaca ggtttccccc ggggtgcggtt gcctggggcc  
60  
atggagggac catcggtcag ggtgaggaca ggaggaaggg ggtctagggc cttcagggg  
120  
caggcagggg tggctttgcc tgtctcagag caggcctcag cagcacactg tccagtacca  
180  
ggcatcagtg agggccaag aacttgcagc cagcagggac gacagggcag ggccccagg  
240  
agagacccca cacagcgcac atgggagagt ggatgccaaa ggtgggcagc ggggagggcg  
300  
cctgccaaac agtcctgtg tgggtgtgccc cacgctgctg aggtctctgt gcggtgttgg  
360  
c  
361

&lt;210&gt; 4552

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4552

Met Glu Gly Pro Ser Val Arg Val Arg Thr Gly Gly Arg Gly Ser Arg				
1	5	10	15	
Ala Leu Gln Gly Gln Ala Gly Val Ala Leu Pro Val Ser Glu Gln Ala				
	20	25	30	
Ser Ala Ala His Cys Pro Val Pro Gly Ile Ser Glu Gly Pro Arg Thr				
	35	40	45	
Cys Ser Gln Gln Gly Arg Gln Gly Arg Ala Pro Arg Arg Asp Pro Thr				
	50	55	60	
Gln Arg Thr Trp Glu Ser Gly Cys Gln Arg Trp Ala Ala Gly Arg Ala				

65		70		75		80									
Pro	Ala	Lys	Gln	Ser	Leu	Cys	Gly	Val	Pro	His	Ala	Ala	Glu	Val	Ser
				85					90					95	
Val	Arg	Cys	Trp												
			100												

<210> 4553  
 <211> 2970  
 <212> DNA  
 <213> Homo sapiens

<400> 4553  
 gaattactca atctcctatg accatctata catactccac cttcaaaaag tacatcaata  
 60  
 ttatatcatt aaggaaatag taaccttctc ttctccaata tgcattgacat ttttgacaa  
 120  
 tgcaattgtg gcactggcac ttatttcagt gaagaaaaac tttgtggttc tatggcattc  
 180  
 atcatttgac aaatgcaagc atcttcctta tcaatcagct cctattgaac ttactagcac  
 240  
 tgactgtgga atccttaagg gccattaca tttctgaaga agaaagctaa gatgaaggac  
 300  
 atgccactcc gaattcatgt gctacttggc ctagctatca ctacactagt acaagctgta  
 360  
 gataaaaaag tggattgtcc acggttatgt acgtgtgaaa tcaggccttg gtttacaccc  
 420  
 agatccattt atatggaagc atctacagtg gattgtaatg atttaggtct ttttaacttc  
 480  
 ccagccagat tgccagctaa cacacagatt cttctcctac agactaacia tattgcaaaa  
 540  
 attgaatact ccacagactt tccagtaaac cttactggcc tggattttatc tcaaaacaat  
 600  
 ttatcttcag tcaccaatat taatgtaaaa aagatgcctc agctcctttc tgtgtaccta  
 660  
 gagggaaaaca aacttactga actgcctgaa aaatgtctgt ccgaactgag caacttacia  
 720  
 gaactctata ttaatcacia cttgctttct acaatttcac ctggagcctt tattggccta  
 780  
 cataatcttc ttcgacttca tctcaattca aatagattgc agatgatcaa cagtaagtgg  
 840  
 tttgatgctc ttccaaatct agagattctg atgattgggg aaaatccaat tatcagaatc  
 900  
 aaagacatga actttaagcc tcttatcaat cttcgagcc tggttatagc tggataaaac  
 960  
 ctcacagaaa taccagataa cgccttggtt ggactggaaa acttagaaaag catctctttt  
 1020  
 tacgataaca ggcttattaa agtaccocat gttgctcttc aaaaagttgt aaatctcaaa  
 1080  
 tttttggatc taaataaaaa tcctattaat agaatacgaa ggggtgattt tagcaatatg  
 1140  
 ctacacttaa aagagttggg gataaataat atgcctgagc tgatttccat cgatagtctt  
 1200  
 gctgtggata acctgccaga tttaagaaaa atagaagcta ctaacaaccc tagattgtct  
 1260



tacattcacc ccaatgcatt tttcagactc cccaagctgg aatcactcat gctgaacagc  
1320  
aatgctctca gtgccttgta ccatgggtacc attgagtctc tgccaaacct caaggaaatc  
1380  
agcatacaca gtaaccccat caggtgtgac tgtgtcatcc gttggatgaa catgaacaaa  
1440  
accaacattc gattcatgga gccagattca ctgttttgcg tggaccacc tgaattccaa  
1500  
ggtcagaatg ttcggcaagt gcatttcagg gacatgatgg aaatttgtct ccctcttata  
1560  
gctcctgaga gctttccttc taatctaaat gtagaagctg ggagctatgt ttcctttcac  
1620  
tgtagagcta ctgcagaacc acagcctgaa atctactgga taacaccttc tgggtcaaaaa  
1680  
ctcttgcccta ataccctgac agacaagttc tatgtccatt ctgagggaac actagatata  
1740  
aatggcgtaa ctcccaaaga aggggggttta tatacttgta tagcaactaa cctagttggc  
1800  
gctgacttga agtctgttat gatcaaagtg gatggatctt ttccacaaga taacaatggc  
1860  
tctttgaata ttaaaataag agatattcag gccaatcag ttttggtgtc ctggaaagca  
1920  
agttctaaaa ttctcaaate tagtggttaa tggacagcct ttgtcaagac tgaaaattct  
1980  
catgctgcgc aaagtgtctg aataccatct gatgtcaagg tatataatct tactcatctg  
2040  
aatccatcaa ctgagtataa aatttgtatt gatattccca ccacttatca gaaaaacaga  
2100  
aaaaaatgtg taaatgtcac caccaaaggc ttgcaccctg atcaaaaaga gtatgaaaag  
2160  
aataatacca caacacttat ggctgtctt ggaggccttc tggggattat tgggtgtgata  
2220  
tgtcttatca gctgcctctc tccagaaatg aactgtgatg gtggacacag ctatgtgagg  
2280  
aattacttac agaaaccaac ctttgcatta ggtgagcttt atcctcctct gataaatctc  
2340  
tggaagcag gaaaagaaaa aagtacatca ctgaaagtaa aagcaactgt tataggttta  
2400  
ccaacaaata tgtcctaaaa accaccaagg aaacctactc caaaaatgaa caaaaaaaaa  
2460  
aaaagcgaaa gactgcagtt gtgctaaaaa caaaacaaaa caaacaaaca aacaaaaaag  
2520  
taaaaaaaga ttactttcga gagagaagtt taagcttcac caatgctgct cctgaccaat  
2580  
ggaaatatgt acaacttcag cattttaagt aactggcttc aaggggtact gtggcaacca  
2640  
aataaaataa ctccattttc taaaactttc atgtaacttt tatgtctgga ctacagttca  
2700  
agtggacaaa aacattttctg tatttttttt aagtaaataa gagtagttga actgagcaat  
2760  
acctcctcct gtgttgattt acacatatta gccacgagtt tttgcagtga ccagataaac  
2820  
ttgaattgac acgtgggtga ataaaatgga caaattctgt agagtagaca cagttagtat  
2880

gtggacctct tttataagga aaaatacatt ttggattaaa atcaattgct tctgtcttgt

2940

tttgtttcta aataaagaat aatttctggg

2970

<210> 4554

<211> 705

<212> PRT

<213> Homo sapiens

<400> 4554

Met	Pro	Leu	Arg	Ile	His	Val	Leu	Leu	Gly	Leu	Ala	Ile	Thr	Thr	Leu
1				5					10					15	
Val	Gln	Ala	Val	Asp	Lys	Lys	Val	Asp	Cys	Pro	Arg	Leu	Cys	Thr	Cys
			20					25					30		
Glu	Ile	Arg	Pro	Trp	Phe	Thr	Pro	Arg	Ser	Ile	Tyr	Met	Glu	Ala	Ser
		35					40					45			
Thr	Val	Asp	Cys	Asn	Asp	Leu	Gly	Leu	Leu	Thr	Phe	Pro	Ala	Arg	Leu
	50					55					60				
Pro	Ala	Asn	Thr	Gln	Ile	Leu	Leu	Leu	Gln	Thr	Asn	Asn	Ile	Ala	Lys
65					70					75					80
Ile	Glu	Tyr	Ser	Thr	Asp	Phe	Pro	Val	Asn	Leu	Thr	Gly	Leu	Asp	Leu
				85					90					95	
Ser	Gln	Asn	Asn	Leu	Ser	Ser	Val	Thr	Asn	Ile	Asn	Val	Lys	Lys	Met
			100					105					110		
Pro	Gln	Leu	Leu	Ser	Val	Tyr	Leu	Glu	Glu	Asn	Lys	Leu	Thr	Glu	Leu
	115						120					125			
Pro	Glu	Lys	Cys	Leu	Ser	Glu	Leu	Ser	Asn	Leu	Gln	Glu	Leu	Tyr	Ile
	130					135					140				
Asn	His	Asn	Leu	Leu	Ser	Thr	Ile	Ser	Pro	Gly	Ala	Phe	Ile	Gly	Leu
145					150					155					160
His	Asn	Leu	Leu	Arg	Leu	His	Leu	Asn	Ser	Asn	Arg	Leu	Gln	Met	Ile
			165						170					175	
Asn	Ser	Lys	Trp	Phe	Asp	Ala	Leu	Pro	Asn	Leu	Glu	Ile	Leu	Met	Ile
			180					185					190		
Gly	Glu	Asn	Pro	Ile	Ile	Arg	Ile	Lys	Asp	Met	Asn	Phe	Lys	Pro	Leu
		195					200					205			
Ile	Asn	Leu	Arg	Ser	Leu	Val	Ile	Ala	Gly	Ile	Asn	Leu	Thr	Glu	Ile
	210					215					220				
Pro	Asp	Asn	Ala	Leu	Val	Gly	Leu	Glu	Asn	Leu	Glu	Ser	Ile	Ser	Phe
225				230						235					240
Tyr	Asp	Asn	Arg	Leu	Ile	Lys	Val	Pro	His	Val	Ala	Leu	Gln	Lys	Val
			245						250					255	
Val	Asn	Leu	Lys	Phe	Leu	Asp	Leu	Asn	Lys	Asn	Pro	Ile	Asn	Arg	Ile
		260						265					270		
Arg	Arg	Gly	Asp	Phe	Ser	Asn	Met	Leu	His	Leu	Lys	Glu	Leu	Gly	Ile
		275					280					285			
Asn	Asn	Met	Pro	Glu	Leu	Ile	Ser	Ile	Asp	Ser	Leu	Ala	Val	Asp	Asn
	290					295					300				
Leu	Pro	Asp	Leu	Arg	Lys	Ile	Glu	Ala	Thr	Asn	Asn	Pro	Arg	Leu	Ser
305					310					315					320
Tyr	Ile	His	Pro	Asn	Ala	Phe	Phe	Arg	Leu	Pro	Lys	Leu	Glu	Ser	Leu
				325					330					335	
Met	Leu	Asn	Ser	Asn	Ala	Leu	Ser	Ala	Leu	Tyr	His	Gly	Thr	Ile	Glu

Ser	Leu	Pro	Asn	Leu	Lys	Glu	Ile	Ser	Ile	His	Ser	Asn	Pro	Ile	Arg	
		355					360					365				
Cys	Asp	Cys	Val	Ile	Arg	Trp	Met	Asn	Met	Asn	Lys	Thr	Asn	Ile	Arg	
	370					375					380					
Phe	Met	Glu	Pro	Asp	Ser	Leu	Phe	Cys	Val	Asp	Pro	Pro	Glu	Phe	Gln	
385					390					395					400	
Gly	Gln	Asn	Val	Arg	Gln	Val	His	Phe	Arg	Asp	Met	Met	Glu	Ile	Cys	
				405					410					415		
Leu	Pro	Leu	Ile	Ala	Pro	Glu	Ser	Phe	Pro	Ser	Asn	Leu	Asn	Val	Glu	
			420					425					430			
Ala	Gly	Ser	Tyr	Val	Ser	Phe	His	Cys	Arg	Ala	Thr	Ala	Glu	Pro	Gln	
		435					440					445				
Pro	Glu	Ile	Tyr	Trp	Ile	Thr	Pro	Ser	Gly	Gln	Lys	Leu	Leu	Pro	Asn	
	450					455					460					
Thr	Leu	Thr	Asp	Lys	Phe	Tyr	Val	His	Ser	Glu	Gly	Thr	Leu	Asp	Ile	
465					470					475					480	
Asn	Gly	Val	Thr	Pro	Lys	Glu	Gly	Gly	Leu	Tyr	Thr	Cys	Ile	Ala	Thr	
				485					490					495		
Asn	Leu	Val	Gly	Ala	Asp	Leu	Lys	Ser	Val	Met	Ile	Lys	Val	Asp	Gly	
			500					505					510			
Ser	Phe	Pro	Gln	Asp	Asn	Asn	Gly	Ser	Leu	Asn	Ile	Lys	Ile	Arg	Asp	
		515					520					525				
Ile	Gln	Ala	Asn	Ser	Val	Leu	Val	Ser	Trp	Lys	Ala	Ser	Ser	Lys	Ile	
	530					535					540					
Leu	Lys	Ser	Ser	Val	Lys	Trp	Thr	Ala	Phe	Val	Lys	Thr	Glu	Asn	Ser	
545					550					555					560	
His	Ala	Ala	Gln	Ser	Ala	Arg	Ile	Pro	Ser	Asp	Val	Lys	Val	Tyr	Asn	
				565					570					575		
Leu	Thr	His	Leu	Asn	Pro	Ser	Thr	Glu	Tyr	Lys	Ile	Cys	Ile	Asp	Ile	
			580					585					590			
Pro	Thr	Ile	Tyr	Gln	Lys	Asn	Arg	Lys	Lys	Cys	Val	Asn	Val	Thr	Thr	
		595					600					605				
Lys	Gly	Leu	His	Pro	Asp	Gln	Lys	Glu	Tyr	Glu	Lys	Asn	Asn	Thr	Thr	
	610					615				620						
Thr	Leu	Met	Ala	Cys	Leu	Gly	Gly	Leu	Leu	Gly	Ile	Ile	Gly	Val	Ile	
625					630					635					640	
Cys	Leu	Ile	Ser	Cys	Leu	Ser	Pro	Glu	Met	Asn	Cys	Asp	Gly	Gly	His	
				645					650					655		
Ser	Tyr	Val	Arg	Asn	Tyr	Leu	Gln	Lys	Pro	Thr	Phe	Ala	Leu	Gly	Glu	
		660						665					670			
Leu	Tyr	Pro	Pro	Leu	Ile	Asn	Leu	Trp	Glu	Ala	Gly	Lys	Glu	Lys	Ser	
	675						680									

```
<210> 4555
<211> 1128
<212> DNA
<213> Homo sapiens
```

<400> 4555

nagtgggaat tagatcctct gggaaccctg gagcttggtg agagtgacgc tgccatgggg  
 60  
 ttgggtccct gaggccttcc tcggagcatt gggtgccagg ggctgccag gcttctctgag  
 120  
 tggcccacct ggggtgggagg ctgccaccgc ggcctgatca tgccctctgt gcccacacag  
 180  
 gtctctgagc ggccctctgat gttctctgtt gacactcctg gcgtgctggc tctcggatt  
 240  
 gaaagtgtgg agacaggcct gaagctggcc ctgtgtggaa cgggtgctgga ccacctggtc  
 300  
 ggggaggaga ccatggctga ctacctgctg tacaccctca acaaacacca gcgctttggg  
 360  
 tgagtgcagc actacggcct gggcagtgcc tgtgacaacg tagagcgcgt gctgaagagt  
 420  
 gtggctgtga agctggggaa gacgcagaag gtgaaggtgc tcacgggcac gggtaacgtg  
 480  
 aacgttattc agcctaacta tcctgcggca gcccgtagact tcctgcagac tttccgccgt  
 540  
 gggctgctgg gttccgtgat gctggacctc gacgtcctgc ggggccaccc cccggctgag  
 600  
 actttgccct gaacttgtcc gggtagggag ggccggaggc atgtggcctc ccagacctcc  
 660  
 tgacctgggt ggttgaggct caagacagct caccgggtcc agaagctcca tgctggtcac  
 720  
 taggggtgctg tgctctctgg cgcaccacag cctggccagc tccagggacc ccagttgcag  
 780  
 ggcccaagca ggtgggagtg gacaccaggc ttcccagtgg acgtccctga gcagctccgc  
 840  
 atgcttggtt ctcccgagc ttctgctca ggcctcttga gaaatggatg ctgtctcaga  
 900  
 aggagttaaa gctataacct gtaaccttta aaatctccag ttaaagggcc tgtttcttac  
 960  
 tggcctgtga ggtgcaccgt agtgccttgg gcctgtgtgt taaagctgct ctcaccagtg  
 1020  
 gaacctaaaga aatgagcagg ttggcagcta gggtttgtgt tggaggcttt cgggtccagt  
 1080  
 tcttgagtc ctacaacaag tgagagcttg ctgccaaaaa aaaaaaaa  
 1128

&lt;210&gt; 4556

&lt;211&gt; 67

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4556

Met	Pro	Ser	Val	Pro	Thr	Gln	Val	Ser	Glu	Arg	Pro	Leu	Met	Phe	Leu
1				5				10					15		
Leu	Asp	Thr	Pro	Gly	Val	Leu	Ala	Pro	Arg	Ile	Glu	Ser	Val	Glu	Thr
			20					25					30		
Gly	Leu	Lys	Leu	Ala	Leu	Cys	Gly	Thr	Val	Leu	Asp	His	Leu	Val	Gly
		35					40					45			
Glu	Glu	Thr	Met	Ala	Asp	Tyr	Leu	Leu	Tyr	Thr	Leu	Asn	Lys	His	Gln
	50						55					60			
Arg	Phe	Gly													

65

&lt;210&gt; 4557

&lt;211&gt; 446

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4557

nnacgcgtgc acagaaagcg gtgccaggac tctcttggct ctctcggag ggctgggatg  
 60  
 gcctgtccct ctctctcct caccctgct cccagcaagg ccgtccgttg tgcccaagac  
 120  
 catctaggac attctcatcc ccctgagacc tcaagggcct tcttgectcc tccctcagac  
 180  
 gtgagggtga gatcctgcct ctaccattgg agcgccacag cccacctgcc tctctgtca  
 240  
 aaaaaacctc cttgtaccat ctctcacttg agacctctgc taggcctgcc tctccatct  
 300  
 gacctccaca tcccatcagc agccaccctg ggccccctgca tgcactggcc tctccctca  
 360  
 gacgctcctt gcaccatata acttgcatca gacgctctcc taggcctgcc tccccctca  
 420  
 gaccaccaca tcacatctac acgcgt  
 446

&lt;210&gt; 4558

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4558

Xaa	Arg	Val	His	Arg	Lys	Arg	Cys	Gln	Asp	Ser	Leu	Gly	Ser	Pro	Arg
1				5				10						15	
Arg	Ala	Gly	Met	Ala	Cys	Pro	Ser	Pro	Leu	Leu	Thr	Pro	Ala	Pro	Ser
			20					25					30		
Lys	Ala	Val	Arg	Cys	Ala	Gln	Asp	His	Leu	Gly	His	Ser	His	Pro	Pro
		35				40					45				
Glu	Thr	Ser	Arg	Ala	Phe	Leu	Pro	Pro	Pro	Ser	Asp	Val	Arg	Val	Arg
	50					55					60				
Ser	Cys	Leu	Tyr	His	Trp	Ser	Ala	Thr	Ala	His	Leu	Pro	Pro	Leu	Ser
65					70					75				80	
Lys	Lys	Pro	Pro	Cys	Thr	Ile	Ser	His	Leu	Arg	Pro	Leu	Leu	Gly	Leu
				85					90					95	
Pro	Pro	Pro	Ser	Asp	Leu	His	Ile	Pro	Ser	Ala	Ala	Thr	Leu	Gly	Pro
			100					105					110		
Cys	Met	His	Trp	Pro	Pro	Pro	Ser	Asp	Ala	Pro	Cys	Thr	Ile	Ser	Leu
	115						120					125			
Ala	Leu	Asp	Ala	Leu	Leu	Gly	Leu	Pro	Pro	Pro	Ser	Asp	His	His	Ile
	130					135					140				
Thr	Ser	Thr	Arg												
145															

&lt;210&gt; 4559

&lt;211&gt; 919

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4559

```

tttttttttt tttttttttt tttttttttt ttttgcttca atgctcttta tttcattagg
60
aaagtagctg ggcaggggtg ttccctggg ggatggagtg ggggtacaga cagtagcctg
120
gctcctgtcc cctaggattg acaaaccaag ggctcagggc tcagctgtgt gccacgcagc
180
ggctgctgtg aggtgtgttc tggtagaagg ggctcagctga ggctcagggtt cttcccacgt
240
ggggatgcag gtgccgcagg ctctccatgg gggtgggggt ggcctccatg cagctgaccg
300
gctggctgag ggcgtagcct cctggcatct ggggctggat gccacctcga gtccagcctt
360
cctggtctag acccttgggg atgttctcaa agtacccttg gttgtaggtg gtcaggtatc
420
gctgatccct gtcaggatca caggggctcc ggacatacat ggggttgta aggctgaacc
480
ctgtgggctc ctttttcccc acagtctccc ggccaagcag ggcaacgttt gtctgttgca
540
tccgatgaag tggctgaaac tgctggtgac tcacgctgct gggttctggg cagggagggg
600
gcactctggg gttcagaatc ctttcattcc ctcggtgaa ggctgtttcc cgcttgagc
660
ctctggccaa cacaggtagg aactcatctc catgtaggtg agtcttgggg aggaagtctg
720
acttggtgac actctggcct gggaggaggg caggggtcccc cagggagggc ctgtgagggc
780
ggttggaaga caatggggct ctggtgggac tgtttggtga agccactccc ctcttttgcg
840
ccgatcgatt tcttctgcaa gaaatctggc tggctctagag ggtccctgag atacttgga
900
ttgtactccg acgtcatga
919

```

&lt;210&gt; 4560

&lt;211&gt; 126

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4560

```

Met Gln Gln Thr Asn Val Ala Leu Leu Gly Arg Glu Thr Val Gly Lys
 1             5             10             15
Lys Glu Pro Thr Gly Phe Ser Leu Asn Asn Pro Met Tyr Val Arg Ser
          20             25             30
Pro Cys Asp Pro Asp Arg Asp Gln Arg Tyr Leu Thr Thr Tyr Asn Gln
          35             40             45
Gly Tyr Phe Glu Asn Ile Pro Lys Gly Leu Asp Gln Glu Gly Trp Thr
          50             55             60
Arg Gly Gly Ile Gln Pro Gln Met Pro Gly Gly Tyr Ala Leu Ser Gln
65             70             75             80
Pro Val Ser Cys Met Glu Ala Thr Pro Asn Pro Met Glu Ser Leu Arg

```

				85						90						95			
His	Leu	His	Pro	His	Val	Gly	Arg	Thr	Leu	Thr	Ser	Ala	Asp	Pro	Phe				
			100					105					110						
Tyr	Gln	Asn	Thr	Pro	His	Ser	Ser	Arg	Cys	Val	Ala	His	Ser						
		115					120					125							

&lt;210&gt; 4561

&lt;211&gt; 4172

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4561

```

gcgcgccccct agtcttgggtt tcgggccccgg cggaacaacg cctggcatct ggactccagt
60
gatcgcgccc gtccgcattc gccgacgtct ccaactgctga gcaaaagcca cccgaggctg
120
gcgacagtgt cttgccgggg agtagtagcc gggctggtaa ctggagtttg agattaggag
180
actttcagac ccttgtgcac aaagagcagg atgaagttaa aggaagtaga tcgtacagcc
240
atgcaggcat ggagccctgc ccagaatcac cccatttacc tagcaacagg aacatctgct
300
cagcaattgg atgcaacatt tagtacgaat gcttcccttg agatatttga attagacctc
360
tctgatccat ccttggatat gaaatcttgt gccacattct cctcttctca caggtagcac
420
aagttgattt gggggcctta taaaatggat tccaaaggag atgtctcttg agttctgatt
480
gcaggtggtg aaaatggaaa tattattctc tatgatcctt ctaaaattat agctggagac
540
aaggaagtgt tgattgccca gaatgacaag catactggcc cagtgaagac cttggatgtg
600
aacattttcc agactaatct ggtagcttct ggtgctaata aatctgaaat ctacatatgg
660
gatctaaata attttgcaac cccaatgaca ccaggagcca aaacacagcc gccagaagat
720
atcagctgca ttgcatggaa cagacaagtt cagcatattt tagcatcagc cagtcccagt
780
ggccgggcca ctgtatggga tcttagagaa aatgagccaa tcatcaaagt cagtgaccat
840
agtaacagaa tgcattgttc tgggttggca tggcatcctg atgttgctac tcagatggtc
900
cttgccctccg aggatgaccg gttaccagtg atccagatgt gggatcttcg atttgcttcc
960
tctccacttc gtgtcctgga aaaccatgcc agggggattt tggcaattgc ttggagcatg
1020
gcagatcctg aattgttact gagctgtgga aaagatgcta agattctctg ctccaatcca
1080
aacacaggag aggtgttata tgaacttccc accaacacac agtgggtgctt cgatattcag
1140
tgggtgtccc gaaatcctgc tgtcttatca gctgcttcgt ttgatgggag tatcagtgtt
1200
tattctatca tgggaggaag cacagatggt ttaagacaga aacaagttga caagctttca
1260

```

tcatcttttg ggaatcttga tccctttggc acaggacagc cccttcctcc gttacaaatt  
1320  
ccacagcaga ctgctcagca tagtatagt ctgcctctga agaagccgcc caagtggatt  
1380  
cgaaggcctg ttggtgcttc tttttcattt ggaggcaaac tggttacgtt tgagaatgtc  
1440  
agaatgcctt ctcatcaggg agctgagcag cagcagcagc agcaccatgt gttcattagt  
1500  
caggttgtaa cagaaaagga gttcctcagc cgatcagacc aacttcagca ggctgtgcag  
1560  
tcacaaggat ttatcaatta ttgccaaaaa aaaattgatg cttctcagag tgaatttgag  
1620  
aaaaatgtgt ggtccttttt gaaggtaaac tttgaggatg attctcgtgg aaaatacctt  
1680  
gaacttctag gatacagaaa agaagatcta gaaaagnnac aggacattaa agaggaaaaa  
1740  
gaagaatctg aatttctacc ctcatctgga ggaacattta atatctctgt cagtggggac  
1800  
attgatgggt taattactca ggctttgctg acgggcaatt ttgagagtgc tgttgacctt  
1860  
tgtttacatg ataaccgcat ggccgatgcc attatatgg ccatagcagg tggacaagaa  
1920  
ctcttggtc gaaccagaa aaaatacttc gcaaaatccc aaagcaaaat taccaggctc  
1980  
atcactgcag tggatgatga gaactggaaa gagattgttg agtcttgatga tcttaaaaaat  
2040  
tggagagagg ctttagctgc agtattgact tatgcaaagc cggatgaatt ttcagccctt  
2100  
tgtgatcttt tgggaaccag gcttgaaaat gaaggagata gcctcctgca gactcaagca  
2160  
tgtctctgct atatttctgc agggaaatgta gagaaattag ttgcatgttg gactaaagct  
2220  
caagatggaa gccacccttt gtcacttcag gatctgattg agaaagtgt catcctgcga  
2280  
aaagctgtgc aactcactca agccatggac actagtactg taggagttct cttggctgcg  
2340  
aagatgagtc agtatgccaa tttgttggca gctcagggca gtattgctgc agccttggtc  
2400  
tttcttctg acaacaccaa ccagccaaat atcatgcagc ttcgtgacag actttgtaga  
2460  
gcacaaggag agcctgtagc aggacatgaa tcacctaaaa ttccgtacga gaaacagcag  
2520  
ctccccaagg gcaggcctgg accagttgct ggccaccacc agatgccaa agttcaaact  
2580  
caacaatatt atcccatgg agaaaatcct ccacctccgg gtttcataat gcatggaaat  
2640  
gttaatccaa atgctgctgg tcagcttccc acatctccag gtcatatgca caccaggtg  
2700  
ccaccttate cacagccaca gccttatcaa ccagcccagc cgtatccctt cggaacaggg  
2760  
gggtcagcaa tgtatcgacc tcagcagcct gttgtctctc ctacttcaaa cgtttaccct  
2820  
aacacccctt acatatcttc tgcttcttcc tatactgggc agtctcagct gtacgcagca  
2880



cagcaccagg cctcttcacc tacctccagc cctgctactt ctttccctcc tcccccttcc  
 2940  
 tctggagcat ccttccagca tggcggacca ggagctccac catcatcttc agcttatgca  
 3000  
 ctgcctcctg gaacaacagg tacactgcct gctgccagtg agctgcctgc gtcccaaaga  
 3060  
 acaggtcctc agaatgggtg gaatgaccct ccagctttga acagagtacc caaaaagaag  
 3120  
 aagatgcctg aaaacttcat gcctcctggt cccatcacat caccaatcat gaacccggtg  
 3180  
 ggtgaccccc agtcacaaat gctgcagcaa cagccttcag ctccagtacc actgtcaagc  
 3240  
 cagtcttcat tcccacagcc acatcttcca ggtggccagc ctttccatgg cgtacagcaa  
 3300  
 cctcttggtc aaacaggcat gccaccatct ttttcaaagc ccaatattga aggtgccccca  
 3360  
 ggggctccta ttggaaatac cttccagcat gtgcagtctt tgccaacaaa aaaaattacc  
 3420  
 aagaaaccta ttccagatga gcacctcatt ctaaagacca catttgagga tcttattcag  
 3480  
 cgctgccttt cttcagcaac agaccctcaa accaagagga agctagatga tgccagcaaa  
 3540  
 cgtttgaggt ttctgtatga taaacttagg gaacagacac tttcaccaac aatcaccagt  
 3600  
 ggtttacaca acattgcaag gagcattgaa actcgaaact actcagaagg attgaccatg  
 3660  
 catacccaca tagttagcac cagcaacttc agtgagacct ctgctttcat gccagttctc  
 3720  
 aaagttgttc tcaccagggc caataagctg ggtgtctaaa aggacagctt ctcttccact  
 3780  
 caatattgcc attttttccaa agaaacatgt taaaaaaaaa aattataaga catggactag  
 3840  
 tcctcattag catgtttgca tagcaaccag tcaagagcat ttacactatt tctgctgata  
 3900  
 tactcacctt agaactgctc agaaccctgg tgctttatct ttgttttaac cttttgttgc  
 3960  
 cagtgatgat tttcctattc tgcaaatagt gtatttcctg gattacacat agtatggttt  
 4020  
 cctgaagtat tctgataaat gtgttttttt aaaacctcaa tatacttttt agaaaaggag  
 4080  
 catctggtta tgcataaagc agagctaaaa ctaaatttct ttcattgtcct ccctacttcc  
 4140  
 tcagtgtcaa tcagattaaa gtgtgtaatc ct  
 4172

&lt;210&gt; 4562

&lt;211&gt; 1182

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4562

Met Lys Leu Lys Glu Val Asp Arg Thr Ala Met Gln Ala Trp Ser Pro  
 1 5 10 15  
 Ala Gln Asn His Pro Ile Tyr Leu Ala Thr Gly Thr Ser Ala Gln Gln

3758

450		455		460
Ser Gln Thr Glu Phe Glu Lys Asn Val Trp Ser Phe Leu Lys Val Asn				
465		470		475
Phe Glu Asp Asp Ser Arg Gly Lys Tyr Leu Glu Leu Leu Gly Tyr Arg				480
	485		490	495
Lys Glu Asp Leu Glu Lys Xaa Gln Asp Ile Lys Glu Glu Lys Glu Glu				
	500		505	510
Ser Glu Phe Leu Pro Ser Ser Gly Gly Thr Phe Asn Ile Ser Val Ser				
	515		520	525
Gly Asp Ile Asp Gly Leu Ile Thr Gln Ala Leu Leu Thr Gly Asn Phe				
	530		535	540
Glu Ser Ala Val Asp Leu Cys Leu His Asp Asn Arg Met Ala Asp Ala				
545		550		555
Ile Ile Leu Ala Ile Ala Gly Gly Gln Glu Leu Leu Ala Arg Thr Gln				
	565		570	575
Lys Lys Tyr Phe Ala Lys Ser Gln Ser Lys Ile Thr Arg Leu Ile Thr				
	580		585	590
Ala Val Val Met Lys Asn Trp Lys Glu Ile Val Glu Ser Cys Asp Leu				
	595		600	605
Lys Asn Trp Arg Glu Ala Leu Ala Ala Val Leu Thr Tyr Ala Lys Pro				
	610		615	620
Asp Glu Phe Ser Ala Leu Cys Asp Leu Leu Gly Thr Arg Leu Glu Asn				
625		630		635
Glu Gly Asp Ser Leu Leu Gln Thr Gln Ala Cys Leu Cys Tyr Ile Cys				
	645		650	655
Ala Gly Asn Val Glu Lys Leu Val Ala Cys Trp Thr Lys Ala Gln Asp				
	660		665	670
Gly Ser His Pro Leu Ser Leu Gln Asp Leu Ile Glu Lys Val Val Ile				
	675		680	685
Leu Arg Lys Ala Val Gln Leu Thr Gln Ala Met Asp Thr Ser Thr Val				
	690		695	700
Gly Val Leu Leu Ala Ala Lys Met Ser Gln Tyr Ala Asn Leu Leu Ala				
705		710		715
Ala Gln Gly Ser Ile Ala Ala Ala Leu Ala Phe Leu Pro Asp Asn Thr				
	725		730	735
Asn Gln Pro Asn Ile Met Gln Leu Arg Asp Arg Leu Cys Arg Ala Gln				
	740		745	750
Gly Glu Pro Val Ala Gly His Glu Ser Pro Lys Ile Pro Tyr Glu Lys				
	755		760	765
Gln Gln Leu Pro Lys Gly Arg Pro Gly Pro Val Ala Gly His His Gln				
	770		775	780
Met Pro Arg Val Gln Thr Gln Gln Tyr Tyr Pro His Gly Glu Asn Pro				
785		790		795
Pro Pro Pro Gly Phe Ile Met His Gly Asn Val Asn Pro Asn Ala Ala				
	805		810	815
Gly Gln Leu Pro Thr Ser Pro Gly His Met His Thr Gln Val Pro Pro				
	820		825	830
Tyr Pro Gln Pro Gln Pro Tyr Gln Pro Ala Gln Pro Tyr Pro Phe Gly				
	835		840	845
Thr Gly Gly Ser Ala Met Tyr Arg Pro Gln Gln Pro Val Ala Pro Pro				
	850		855	860
Thr Ser Asn Ala Tyr Pro Asn Thr Pro Tyr Ile Ser Ser Ala Ser Ser				
865		870		875
Tyr Thr Gly Gln Ser Gln Leu Tyr Ala Ala Gln His Gln Ala Ser Ser				
				880

```

      885              890              895
Pro Thr Ser Ser Pro Ala Thr Ser Phe Pro Pro Pro Pro Ser Ser Gly
      900              905              910
Ala Ser Phe Gln His Gly Gly Pro Gly Ala Pro Pro Ser Ser Ser Ala
      915              920              925
Tyr Ala Leu Pro Pro Gly Thr Thr Gly Thr Leu Pro Ala Ala Ser Glu
      930              935              940
Leu Pro Ala Ser Gln Arg Thr Gly Pro Gln Asn Gly Trp Asn Asp Pro
      945              950              955              960
Pro Ala Leu Asn Arg Val Pro Lys Lys Lys Lys Met Pro Glu Asn Phe
      965              970              975
Met Pro Pro Val Pro Ile Thr Ser Pro Ile Met Asn Pro Leu Gly Asp
      980              985              990
Pro Gln Ser Gln Met Leu Gln Gln Gln Pro Ser Ala Pro Val Pro Leu
      995              1000              1005
Ser Ser Gln Ser Ser Phe Pro Gln Pro His Leu Pro Gly Gly Gln Pro
      1010              1015              1020
Phe His Gly Val Gln Gln Pro Leu Gly Gln Thr Gly Met Pro Pro Ser
      1025              1030              1035              1040
Phe Ser Lys Pro Asn Ile Glu Gly Ala Pro Gly Ala Pro Ile Gly Asn
      1045              1050              1055
Thr Phe Gln His Val Gln Ser Leu Pro Thr Lys Lys Ile Thr Lys Lys
      1060              1065              1070
Pro Ile Pro Asp Glu His Leu Ile Leu Lys Thr Thr Phe Glu Asp Leu
      1075              1080              1085
Ile Gln Arg Cys Leu Ser Ser Ala Thr Asp Pro Gln Thr Lys Arg Lys
      1090              1095              1100
Leu Asp Asp Ala Ser Lys Arg Leu Glu Phe Leu Tyr Asp Lys Leu Arg
      1105              1110              1115              1120
Glu Gln Thr Leu Ser Pro Thr Ile Thr Ser Gly Leu His Asn Ile Ala
      1125              1130              1135
Arg Ser Ile Glu Thr Arg Asn Tyr Ser Glu Gly Leu Thr Met His Thr
      1140              1145              1150
His Ile Val Ser Thr Ser Asn Phe Ser Glu Thr Ser Ala Phe Met Pro
      1155              1160              1165
Val Leu Lys Val Val Leu Thr Gln Ala Asn Lys Leu Gly Val
      1170              1175              1180

```

&lt;210&gt; 4563

&lt;211&gt; 2037

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4563

```

ctacttggtc tcctgctttc gcgacatggc cttcaatttt ggggctccct cgggcacctc
60
cggtagcgct gcagccaccg cggcccccggt ctgggtttgg aggatttggg acaacatcta
120
caactgcagg ttctgcattc agctttttctg ccccaactaa cacaggcact actggactct
180
ttgggtgtac tcagaacaaa ggttttggat ttggtactgg ttttggcaca acaacgggaa
240
ctagtactgg tttaggtact ggtttgggaa ctggactggg atttggagga ttttaatacac
300

```

agcagcagca gcaaactagc agtaggttat agttgcatgc ccagtaataa agatgaagat  
360  
gggctagtgg ttttagtttt caacaaaaaa gaaacagaga ttcgaagcca acaacaacag  
420  
ttggtagaat cattgcataa agttttggga ggaaaccaga cccttactgt aaatgtagag  
480  
ggcactaaaa cattgccaga tgatcagaca gaagttgtta tttatgttgt tgagcgttcg  
540  
ccaaatggta cttcaagaag agttccagct acaacgctat atgccattt tgaacaagcc  
600  
aatataaaaa cacaattgca gcaacttggg gtaacccttt ctatgactag aacagaactt  
660  
tctcctgcac agatcagaca gcttttacag aatcctcctg ctgggtgtga tcttattatc  
720  
tggaacagg ccaaggtaga taaccctgat tctgaaaagt taattcctgt accaatgggtg  
780  
ggttttaagg aacttctccg aagactgaag gttcaagatc agatgactaa gcagcatcaa  
840  
accagattag atatcatatc tgaagatatt agtgagctac aaaagaatca aactacatct  
900  
gtagccaaaa ttgcacaata caagaggaaa ctcattggatc tttcccatag aactttacag  
960  
gtcctaatac aacaggaaat tcaaaggaag agtggttatg ccattcaggc tgatgaagag  
1020  
cagttgcgag ttcagctgga tacgattcag ggtgaactaa atgcacctac tcagttcaag  
1080  
ggccgactaa atgaattgat gtctcaaate aggatgcaga atcatttttg agcagtcaga  
1140  
tctgaagaaa ggtattacat agatgcagat ctgttacgag aaatcaagca gcatttgaaa  
1200  
caacaacagg aaggccttag ccatttgatt agcatcatta aagacgatct agaagatata  
1260  
aagctgggtc aacatggatt gaatgaaacc atccacatca gaggtgggtg ctttagttga  
1320  
cagttcacia acttgtgtaa aggtttgtga aatgcattct cttactgcat cagaccttcc  
1380  
ttaagaatga aaccgaccac atggagggaa aaagaaaaca attctttctt ggattggttt  
1440  
tttgagaagt ttactgacaa attactgttc atcaaactg aaatagtcac ctcacagctc  
1500  
ttcaaagaaa acctttgaaa gatttatatc taaaagctgt atttacttta aaagaagtgc  
1560  
ataattacca aaattgtatg tactattgta catttttaca acagcatttt cttaaacata  
1620  
atctgtgttt aatgattatt gtccattgag cctgtactct gctttccata ccaagtaaat  
1680  
atgaaataat ctactttgca cataacagaa gaaactataa ttacttggct gttggagatt  
1740  
tgtacttgag tataaatgta caccagtttt tgtatttgtg aactcatctg tgggaggagt  
1800  
aaagaaaatc caaaagcatt taatgttttg tttttgttct ataaagatat gaaaatgtat  
1860  
ttttatatta ttttacttat ttggaattta cagagcacac ctaagcaatt aggatataac  
1920

aaaactactt aaccattttt gcaaccattt tgttttttaa gcctttttat ttctaaaaag  
 1980  
 atgaaaactt ataaataaat tcttaatttg taattacttt taaaaaaaaa aaaaaaa  
 2037

<210> 4564  
 <211> 354  
 <212> PRT  
 <213> Homo sapiens

<400> 4564  
 Val Leu Val Trp Glu Leu Asp Trp Asp Leu Glu Asp Leu Ile His Ser  
 1 5 10 15  
 Ser Ser Ser Lys Leu Ala Val Gly Tyr Ser Cys Met Pro Ser Asn Lys  
 20 25 30  
 Asp Glu Asp Gly Leu Val Val Leu Val Phe Asn Lys Lys Glu Thr Glu  
 35 40 45  
 Ile Arg Ser Gln Gln Gln Gln Leu Val Glu Ser Leu His Lys Val Leu  
 50 55 60  
 Gly Gly Asn Gln Thr Leu Thr Val Asn Val Glu Gly Thr Lys Thr Leu  
 65 70 75 80  
 Pro Asp Asp Gln Thr Glu Val Val Ile Tyr Val Val Glu Arg Ser Pro  
 85 90 95  
 Asn Gly Thr Ser Arg Arg Val Pro Ala Thr Thr Leu Tyr Ala His Phe  
 100 105 110  
 Glu Gln Ala Asn Ile Lys Thr Gln Leu Gln Gln Leu Gly Val Thr Leu  
 115 120 125  
 Ser Met Thr Arg Thr Glu Leu Ser Pro Ala Gln Ile Arg Gln Leu Leu  
 130 135 140  
 Gln Asn Pro Pro Ala Gly Val Asp Pro Ile Ile Trp Glu Gln Ala Lys  
 145 150 155 160  
 Val Asp Asn Pro Asp Ser Glu Lys Leu Ile Pro Val Pro Met Val Gly  
 165 170 175  
 Phe Lys Glu Leu Leu Arg Arg Leu Lys Val Gln Asp Gln Met Thr Lys  
 180 185 190  
 Gln His Gln Thr Arg Leu Asp Ile Ile Ser Glu Asp Ile Ser Glu Leu  
 195 200 205  
 Gln Lys Asn Gln Thr Thr Ser Val Ala Lys Ile Ala Gln Tyr Lys Arg  
 210 215 220  
 Lys Leu Met Asp Leu Ser His Arg Thr Leu Gln Val Leu Ile Lys Gln  
 225 230 235 240  
 Glu Ile Gln Arg Lys Ser Gly Tyr Ala Ile Gln Ala Asp Glu Glu Gln  
 245 250 255  
 Leu Arg Val Gln Leu Asp Thr Ile Gln Gly Glu Leu Asn Ala Pro Thr  
 260 265 270  
 Gln Phe Lys Gly Arg Leu Asn Glu Leu Met Ser Gln Ile Arg Met Gln  
 275 280 285  
 Asn His Phe Gly Ala Val Arg Ser Glu Glu Arg Tyr Tyr Ile Asp Ala  
 290 295 300  
 Asp Leu Leu Arg Glu Ile Lys Gln His Leu Lys Gln Gln Gln Glu Gly  
 305 310 315 320  
 Leu Ser His Leu Ile Ser Ile Ile Lys Asp Asp Leu Glu Asp Ile Lys  
 325 330 335  
 Leu Val Glu His Gly Leu Asn Glu Thr Ile His Ile Arg Gly Gly Val

340 345 350  
 Phe Ser  
  
 <210> 4565  
 <211> 2344  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 4565  
 ntccggattg tcttggagaa cagtagccgg gaagacaaac atgaatgccc ctttggccgc  
 60  
 agtgccattg agtcaccaa aatgttctgt gaaatcctgc aggttgggga actaccaa  
 120  
 gaaggacgca atgactacca cccgatgttc ttacccatg accgagcctt tgaagagctc  
 180  
 tttggaatct gcatccagct gttgaacaag acctggaagg agatgagggc aacagcagag  
 240  
 gacttcaaca aggttatgca agtcgtccga gagcaaatca ctcgagcttt gccctccaaa  
 300  
 cccaactctt tggatcagtt caagagcaaa ttgcgtagcc tgagttactc tgagattcta  
 360  
 cgactgcgcc agtctgagag gatgagtcag gatgacttcc agtccccgcc aattgtggag  
 420  
 ctgagggaga agatccagcc cgagatcctt gagctgatca agcagcagcg cctgaaccgg  
 480  
 ctctgtgagg gcagcagctt ccgaaagatt gggaaccgcc gaaggcaaga acggttctgg  
 540  
 tactgccggt tggcactgaa ccacaaggctc cttcactatg gtgacttggga tgacaacca  
 600  
 caaggggagg tgacatttga atccctgcag gagaaaattc ctgttgacaga cattaaggcc  
 660  
 attgtcactg ggaaagattg tccccacatg aaagagaaaa gtgctctgaa acagaacaag  
 720  
 gaggtgttgg aattggcctt ctccatcctg tatgaccctg atgagacctt aaacttcac  
 780  
 gcacctaata aatatgagta ctgcatctgg attgacggcc tcagtgcctt tctggggaag  
 840  
 gacatgtcca gtgagctgac caagagtgac ctggacaccc tgctgagcat ggagatgaag  
 900  
 ctgcggctcc tggacctgga gaacatccag attcccgaag cccaccccc catccccaa  
 960  
 gagcccagca gctatgactt tgtctatcac tatggctgag cctggagcca gaaacgacgg  
 1020  
 taccaggag aagggtttt gggcccagga gaaacactta cattctggtg ccttgtctt  
 1080  
 tgcttgata gaatctgtag tgattttggt ggccagtaaa tgccagccat ttctcaaacc  
 1140  
 cacctcggac caccagagt ttctcttgg tccctgtcta ctaagagtca tgaaggcagg  
 1200  
 gtgctctgcc cactccatca ccatgaagcc tgggattggg ccacgaggaa caaacagcag  
 1260  
 atgcccttgc cttccagtc aagaaactgc ttcttgaaat ggatttaaca acagccactc  
 1320

accttttccct cctgagcctg ctctctgac agctggatcc ccacgtgagc aacagctggc  
 1380  
 ccaggaaaagg ctgcctgcag aggacaggtg tggtgggcgt gttgagagcc ttgaagtgc  
 1440  
 tacctgtatc ttagatctga gtacaagcct gaggcctttg cttttgtctt ttttgatgag  
 1500  
 ggctcactcc agcttcatat ggtgccaaga cggtgctgct tctgaggttg gctctaaccat  
 1560  
 ctctgggtctt tagagccacc agatctctct ggcccatata gatatcagag cagacggaaa  
 1620  
 tttctccctg caagcgtca gtctcatccc agcaagtcaa agacctcctg gccaaagtcc  
 1680  
 gccctcttaa gtctccagga acgctgcagg gaaaaccag ctgaggcctg ggcctagact  
 1740  
 gtggtgaggt cactagattc tactgctctt cccccacatt aatacctttt ccttccctcag  
 1800  
 agagaaatct cccctaacct gaattgcagc cccctccagt ttgctttcct ttggccttcc  
 1860  
 agacccaggg aagttggcct tcccttcccta gtgctatggt ttctgccatt ggccatgatt  
 1920  
 tcagggagct ggctgaggcc ggctgaggcc acacctgtgc cagtggggct tccctgggtgc  
 1980  
 tgcagcactt gtaaaccaca cacacagcct ctctccctgg acatacgtta gcacattggc  
 2040  
 attcagtatt ggtggcctgg catggtaggt actacccaat gaagagtgtc ctatatattt  
 2100  
 tcattactat aggccatact tatacagacg tgtatatata tttatataag atctacctat  
 2160  
 cttaggatgg aaccttgggg aaaaataaaa ttgaggggaa gtaaaaagta tgtaaacatt  
 2220  
 ccagttgtga gccaaagattg taaccagaga gcagccagga gcttccctgtc agtaaccatg  
 2280  
 ttttcaataa atactctttc atgtacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2340  
 aaaa  
 2344

<210> 4566  
 <211> 247  
 <212> PRT  
 <213> Homo sapiens

<400> 4566  
 Met Gln Val Val Arg Glu Gln Ile Thr Arg Ala Leu Pro Ser Lys Pro  
 1 5 10 15  
 Asn Ser Leu Asp Gln Phe Lys Ser Lys Leu Arg Ser Leu Ser Tyr Ser  
 20 25 30  
 Glu Ile Leu Arg Leu Arg Gln Ser Glu Arg Met Ser Gln Asp Asp Phe  
 35 40 45  
 Gln Ser Pro Pro Ile Val Glu Leu Arg Glu Lys Ile Gln Pro Glu Ile  
 50 55 60  
 Leu Glu Leu Ile Lys Gln Gln Arg Leu Asn Arg Leu Cys Glu Gly Ser  
 65 70 75 80  
 Ser Phe Arg Lys Ile Gly Asn Arg Arg Arg Gln Glu Arg Phe Trp Tyr



```
<210> 4567
<211> 1211
<212> DNA
<213> Homo sapiens
```

```

<400> 4567
gcggccgcct ccgcgatgcc gctgctcgtc gaggggcggc gagtgcggct gccgcagtca
60
gccgggggacc tcgtccgagc ccaccgcct ttggaggaaa gagccagact tctcagaggt
120
cagtctgttc aacaagtggg accccagggc cttctgtatg ttcagcaaag agagcttgca
180
gtgacctccc caaaggatgg ctccatctcc attctgggtt ctgatgatgc cactacttgt
240
cacattgtgg tcctgaggca cacaggtaat ggggccacct gcttgacaca ttgtgacgga
300
accgacacca aagctgaggt cccttgatc atgaactcca taaaatcctt ttctgaccac
360
gctcaatgtg gaaggtgaga tctacgctgc tctcataggc tggaagtaca ccttgttgga
420
ggcttcagtg acgacaggca gttgtcacia aaactcactc atcaacttct tagtgaattt
480
gacaggcaag aagatgacat tcacttagtg acattatgtg tgacagaatt aaatgaccgg
540
gaagaaaacg aaaaccactt tccagtaata tatggcattg ctgtcaacat taagactgca
600
gagatttaca gagcatcctt tcaagatcgg ggtccggagg agcagcttcg tgctgcgcga
660
acttttagcag gaggaccaat gattagcatt tatgatgcag agacagaaca acttcgtata
720
ggaccgtact cctggacacc atttcacat gtggatttct ggttgacca agatgacaag
780

```

caaataactag agaatctttc cacttcgcct ctggctgagc caccctactt tgttgaacat  
 840  
 attagatcta ccttgatggt ttttaaaaaa caccatctc cagctcacac actgttttct  
 900  
 ggaaataaag ccctactcta caaaaaaaat gaagatggct tgtgggaaaa gatctcttct  
 960  
 ccaggaagtt aaaaaacatg aattaccaaa gaaagcacct tcttggcctg acagaccatt  
 1020  
 ggtggggctg gcacgaatcc agatctggaa cctacatctg ttgggtctta ggtcttctcc  
 1080  
 ttccttctc agtggtttttc aaatgacttt catcaaatga ctttcaaaat aaaaccttat  
 1140  
 tttggcaaag gcaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1200  
 aaaaaaaaaa a  
 1211

<210> 4568  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 4568  
 Met Pro Leu Leu Val Glu Gly Arg Arg Val Arg Leu Pro Gln Ser Ala  
 1 5 10 15  
 Gly Asp Leu Val Arg Ala His Pro Pro Leu Glu Glu Arg Ala Arg Leu  
 20 25 30  
 Leu Arg Gly Gln Ser Val Gln Gln Val Gly Pro Gln Gly Leu Leu Tyr  
 35 40 45  
 Val Gln Gln Arg Glu Leu Ala Val Thr Ser Pro Lys Asp Gly Ser Ile  
 50 55 60  
 Ser Ile Leu Gly Ser Asp Ala Thr Thr Cys His Ile Val Val Leu  
 65 70 75 80  
 Arg His Thr Gly Asn Gly Ala Thr Cys Leu Thr His Cys Asp Gly Thr  
 85 90 95  
 Asp Thr Lys Ala Glu Val Pro Leu Ile Met Asn Ser Ile Lys Ser Phe  
 100 105 110  
 Ser Asp His Ala Gln Cys Gly Arg  
 115 120

<210> 4569  
 <211> 1797  
 <212> DNA  
 <213> Homo sapiens

<400> 4569  
 nttttttttt tttttttttt tttttttttt ttttttttaa aaatcggcat gtccttttat  
 60  
 ttgttcagaa gagcagccag catcacctc gccactcaa cctggcacat acgcttcgga  
 120  
 gacaatggcc tcgggaccct catgctgctg ggcccaggag agacagttct gaggcagaaa  
 180  
 ctcggcgctc aagggggggc gcgggtcagg cactgtggtg aagggaaacg cggggaggtc  
 240

ggccccacct tgcagctggg gacacggggg cgcaaacaga gggggcaggc tagtgtcccc  
300  
ctgccccagg aacagacctc agggccccag gagggctctgc aggcagctag gagcctgcca  
360  
agtgtcgggtg gaagtagagg ccgaaaaggc tggcgagcag ctggcaggca gccgtccacc  
420  
agatgaggta ggccaggacg ccacggagga agaggggagt aagcaggcca cccaggggccc  
480  
cggcaatccg cgctgcagtc tgctggactt cgtcctcccc agagccgann tgggggcagc  
540  
gctggctgag ganntgggtc gggggatagt agaggagctg ggcccaggcc ccaggaatag  
600  
cctcccagcg tcttgagcag aagtgtgcag ttgaggggtga ggatgagcgc gtcagggtact  
660  
gcaagctcac cacggtcaca tagcagtaga ctccgaccac cctctgctgg atttcacggg  
720  
cttcgatgcg gccagcctcc cttcgcagct gctccaccgc ggccttggcc aggcacaggt  
780  
aggcctgcag gtggggcccg gtcaccgcca gccgcagcag gcacagcacc accagcaacc  
840  
agaggcgccc agagtcgaag gcagaatcgg acagcaggga gaaacgcgtc tccccaaac  
900  
ggcggctggt gcaggaagtc ccgtgcaatg ggctttgtcc agagccacag gatgaacagg  
960  
ggagacagga agctggtgtg caggaggaac tgcagcatgg gtctgtcctc cgacatggtc  
1020  
agtgcgtccc ggtgggtctg ggccagccgc aggcctggga aggtgaggaa ggcaccacgc  
1080  
acagagccca ccaactgccag tcccacgcgg atagccagct tggccacagg aagcgcccag  
1140  
tcccagccct gcttcttcag aagtggctct aagttctggg tcatgctggc cagaccaggc  
1200  
tccaggccca gctcgagggt ctccctccgc accacttgca ccagcatggc cagcagcagg  
1260  
aagaggaagg caaaggtag gacagacagag cgctcacccc cctcctcggc gctgaagtac  
1320  
agccgtgtca ctgtcaggaa catcttgatg gagaaggta ccgtgagcag gcaccagaac  
1380  
acagcaatgt tagtctcctt ggctgggtccc agcatgtagt agtaggcctc tgtgaagagg  
1440  
tacacgccgc ccgagtacac agcaaagtcc acaaaccact ggtactccag gaagaagcgc  
1500  
aggaccaggg catccacggg cgtgaggggg caggtctcca gctggaacgg ggcattctcg  
1560  
ggcacagaca gtggcttctc ctactaagg ccattggccc accgctcttt cctgcctctg  
1620  
ggcctcgggt tccccgccag ggcccgaagc tctcctcag acgggtgctt gtatcggaac  
1680  
aaactgccgt tacagagcag ccagcgcgcg aaggagcagt gtggcgccag cctgtgcatg  
1740  
agggtggcag tgagcagggt caccaccagc tgtactccga ggaccgcat gacgcgt  
1797

&lt;210&gt; 4570

<211> 141  
 <212> PRT  
 <213> Homo sapiens

<400> 4570

Xaa	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Leu	Lys	Ile	Gly
1				5					10					15	
Met	Leu	Leu	Tyr	Leu	Phe	Arg	Arg	Ala	Ala	Ser	Ile	Thr	Leu	Ala	Thr
			20					25					30		
Gln	Thr	Trp	His	Ile	Arg	Phe	Gly	Asp	Asn	Gly	Leu	Gly	Thr	Leu	Met
			35				40					45	.		
Leu	Leu	Gly	Pro	Gly	Glu	Thr	Val	Leu	Arg	Gln	Lys	Leu	Gly	Val	Gln
	50					55					60				
Gly	Gly	Pro	Arg	Val	Arg	His	Cys	Gly	Glu	Gly	Asn	Ala	Gly	Glu	Ser
65					70					75				80	
Gly	Pro	Thr	Leu	Gln	Leu	Gly	Thr	Arg	Gly	Arg	Lys	Gln	Arg	Gly	Gln
			85					90					95		
Ala	Ser	Val	Pro	Leu	Pro	Gln	Glu	Gln	Thr	Ser	Gly	Pro	Gln	Glu	Gly
			100					105					110		
Leu	Gln	Ala	Ala	Arg	Ser	Leu	Pro	Ser	Ala	Gly	Gly	Ser	Arg	Gly	Arg
		115					120					125			
Lys	Gly	Trp	Arg	Ala	Ala	Gly	Arg	Gln	Pro	Ser	Thr	Arg			
	130					135					140				

<210> 4571  
 <211> 1084  
 <212> DNA  
 <213> Homo sapiens

<400> 4571

```

ngcgcgcgcgc catgggcctg gccgggctgc aggagaacgt atttaccggg cagtcaaaga
60
tctattccta catgagcccg aacaaatgct ctggaatgcg tttccccctt caggaagaga
120
actcagttac acatcacgaa gtcaaatgcc aggggaaacc attagccgga atctacagga
180
aacgagaaga gaaaagaaat gctgggaacg cagtacggag cgccatgaag tccgaggaac
240
agaagatcaa agacgccagg aaaggtcccc tggtaccttt tccaaaccaa aaatctgaag
300
cagcagaacc tccaaaaact ccacctcat cttgtgattc caccaatgca gccatcgcca
360
agcaagccct gaaaaagccc atcaagggca aacaggcccc ccgaaaaaaaa agctcaagga
420
aaaacgcaac agaatcgcaa atttacggat ttctaccctg tccgaaggag ctccaggaag
480
agcaaagccg agctgcagtc tgaagaaagg aaaagaatag atgaattgat tgaaagtggg
540
aaggaagaag gaatgaagat tgacctcatc gatggcaaag gcaggggtgt gattgccacc
600
aagcagttct cccgggggtga ctttgtggtg gaataccacg gggacctcat cgagatcacc
660
gacgccaaga aacggggaggc tctgtacgca caggaccctt ccacgggctg ctacatgtac
720

```

tattttcagt atctgagcaa aacctactgg tgagtccact gttgcttaga gtggcttttc  
 780  
 tgctctctgg gcagtgagga gaggccaaag ggccaggaac tcctgattct gtttggtggc  
 840  
 cagtcttttg gttttgttgt tggtgacttt tttttttta ttttttgaga tggagtcttg  
 900  
 ctctgttgcc caggctggag tgcagtgggtg tgatctcggc tcattgcaac ctctctcag  
 960  
 gctcaaagaa ttctctctccc tcagcctcca gagtagccca gctaattttt tttttctgta  
 1020  
 ttttttagtag aggtggagtt ttgccacatt ggccaagctg gtcttgaact cctgacctca  
 1080  
 gacc  
 1084

<210> 4572

<211> 126

<212> PRT

<213> Homo sapiens

<400> 4572

Lys	Ser	Pro	Ser	Arg	Ala	Asn	Arg	Pro	Pro	Glu	Lys	Lys	Ala	Gln	Gly
1				5				10						15	
Lys	Thr	Gln	Gln	Asn	Arg	Lys	Leu	Thr	Asp	Phe	Tyr	Pro	Val	Arg	Arg
		20					25					30			
Ser	Ser	Arg	Lys	Ser	Lys	Ala	Glu	Leu	Gln	Ser	Glu	Glu	Arg	Lys	Arg
		35				40					45				
Ile	Asp	Glu	Leu	Ile	Glu	Ser	Gly	Lys	Glu	Glu	Gly	Met	Lys	Ile	Asp
50					55						60				
Leu	Ile	Asp	Gly	Lys	Gly	Arg	Gly	Val	Ile	Ala	Thr	Lys	Gln	Phe	Ser
65				70				75						80	
Arg	Gly	Asp	Phe	Val	Val	Glu	Tyr	His	Gly	Asp	Leu	Ile	Glu	Ile	Thr
			85				90						95		
Asp	Ala	Lys	Lys	Arg	Glu	Ala	Leu	Tyr	Ala	Gln	Asp	Pro	Ser	Thr	Gly
		100					105						110		
Cys	Tyr	Met	Tyr	Tyr	Phe	Gln	Tyr	Leu	Ser	Lys	Thr	Tyr	Trp		
		115					120						125		

<210> 4573

<211> 309

<212> DNA

<213> Homo sapiens

<400> 4573

cccggagatg gaggcctcca ggaccaagtc ggtgcttggg ggcttcccgg gccaccggc  
 60  
 cccaagggag atgccggcag tcggggccca atggggatga gaggcccacc aggtccacag  
 120  
 ggccccccag ggagccctgg ccggggctgga gctgtgggca cccctggaaa aaggggacct  
 180  
 tctggcccac aaggccttct tggeccccct gggccccag cccctgttgg gccaccccc  
 240  
 gcccgatct cccagcatgg agatccattg ctgtccaaca ccttactga gaccaacccc  
 300

ttcacgcgt  
309

<210> 4574  
<211> 103  
<212> PRT  
<213> Homo sapiens

<400> 4574  
Pro Gly Asp Gly Gly Leu Gln Asp Gln Val Gly Ala Trp Gly Leu Pro  
1 5 10 15  
Gly Pro Thr Gly Pro Lys Gly Asp Ala Gly Ser Arg Gly Pro Met Gly  
20 25 30  
Met Arg Gly Pro Pro Gly Pro Gln Gly Pro Pro Gly Ser Pro Gly Arg  
35 40 45  
Ala Gly Ala Val Gly Thr Pro Gly Lys Arg Gly Pro Ser Gly Pro Gln  
50 55 60  
Gly Leu Leu Gly Pro Pro Gly Pro Pro Ala Pro Val Gly Pro Pro His  
65 70 75 80  
Ala Arg Ile Ser Gln His Gly Asp Pro Leu Leu Ser Asn Thr Phe Thr  
85 90 95  
Glu Thr Asn Pro Phe Thr Arg  
100

<210> 4575  
<211> 1068  
<212> DNA  
<213> Homo sapiens

<400> 4575  
nttttttttt tttaaagttag gtagtagga ggagggggccc cagctgccct gcattcactg  
60  
cactcaccca aagcgctggt gtttggttag ggtgtacagc aggtagtcag ccatgggtctc  
120  
ctccccgacc aggtgggtcca gcaccgttcc acacagggcc agcttcaggc ctgtctccac  
180  
actttcaatc cgaggagcca gcacgccagg agtgtccaac aggaacatca ggggccgctc  
240  
agagacctga attttggaaca tcacagctct ggtgatccca ggctcgccac ccaccctggt  
300  
ggctttccct ttctgaggt gctgectccg gagggagttg atgagggagg acttgccac  
360  
gttggggacc ccaatgacca tgatacagta ctccaggttc tcttttcggt ggtagcggtg  
420  
gcttctccca atcagttcag tgaccatcgg gatgatctgc ttgacatttt catcctttac  
480  
acagttggta aaaatgacat tttttaggcc ttctccttct aagtgttgca taattttctg  
540  
ctgctctgta agatccgcca agtccatctt gttgaggacc agcaagttag gcttaagccc  
600  
aagggtttcc tgaaacagag ggttgcgggc tgaaagtggg atccgggcat cgtggacctc  
660  
gatgatacag tccaccagct tcaggctgct ctgcattctt ttcagccctt tggccatgtg  
720

gcccggaac cagcgcgcca cgtcgcgacc gcacaggggg aagttctccc gccaggcggc  
 780  
 ctggcgggcg ctgcacagcg cgcgcgggggt caatctcatg gcggcaccgt ccccggaaac  
 840  
 gctcccgag ctgaccttct cgtctgtgctg cccaggctgg aacgcagtgg cacaatctca  
 900  
 actcactgca agctccgcct cccgggttca cgccattctc ctgcctcagc ctctaagtg  
 960  
 gctgggacta caggtgcccc ccaccacacc cacctaattt tegtattttt agtagagacg  
 1020  
 gggtttcacc gtttcagcaa gaatgggtctc aatctcctga cctcatga  
 1068

<210> 4576

<211> 107

<212> PRT

<213> Homo sapiens

<400> 4576

Lys	Trp	Asp	Pro	Gly	Ile	Val	Asp	Leu	Asp	Asp	Thr	Val	His	Gln	Leu
1				5				10						15	
Gln	Ala	Ala	Leu	His	Leu	Leu	Gln	Pro	Leu	Gly	His	Val	Ala	Arg	Glu
			20					25					30		
Pro	Ala	Arg	His	Val	Ala	Thr	Ala	Gln	Gly	Glu	Val	Leu	Pro	Pro	Gly
		35					40					45			
Gly	Leu	Gly	Gly	Ala	Ala	Gln	Arg	Ala	Arg	Gly	Gln	Ser	His	Gly	Gly
50						55					60				
Thr	Val	Pro	Gly	Asn	Ala	Pro	Ala	Ala	Asp	Leu	Leu	Ala	Leu	Ser	Pro
65				70					75					80	
Arg	Leu	Glu	Arg	Ser	Gly	Thr	Ile	Ser	Thr	His	Cys	Lys	Leu	Arg	Leu
			85					90						95	
Pro	Gly	Ser	Arg	His	Ser	Pro	Ala	Ser	Ala	Ser					
			100					105							

<210> 4577

<211> 3525

<212> DNA

<213> Homo sapiens

<400> 4577

nggcaaggaa ataattattc tgattgggtga aactcccagc tcaaaattag agttgtatta  
 60  
 ctaacgaaga agagactggc tatggagggga cacgatttca gaggtgcttc tgagctgctc  
 120  
 gtgctgacct cagccctgtc cttcctgcag accctgctga aggtcgtgta cgtggagaat  
 180  
 gacatccagc acctgcagga catgtcacac ttcccagacc gggggagcga gaatgggaca  
 240  
 cccatggacg tgaaagccgg ggtgcggggtc atgcagggtca gtcctgacgg ccagcatttg  
 300  
 gcttcaggcg accgaagtgg aaatctgagg caagtgggcc ctggcagtgt ccagtgtaca  
 360  
 cctcccagct ccagctcagg ttctcagggc agtgggcaga agccctggcc ttggcacctc  
 420

ctgctgcccc ttgggaatga ggggctgate cacgagctgc acttcatgga cgagctgggtc  
480  
aaggtggagg cccatgatgc tgaggtgctg tgccctggagt actccaagcc agagacgggg  
540  
ctgaccttgc tggcctcagc cagtcgggac cggtgatcc atgtgctgaa cgtggagaag  
600  
aactacaacc tggagcagac gctggatgac cactcctcct ccatcaccgc catcaagttc  
660  
gctggcaaca gagacatcca gatgatcagc tgtggggctg acaagagcat ctactttcgc  
720  
agtgcccagc agggttcggg tggactacac tttgtccgta cccaccacgt agcagagaaa  
780  
accaccttgt atgacatgga cattgacatc acccagaagt acgtggccgt ggcttgccag  
840  
gaccgcaatg tgagagtcta caacactgtg aacgggaagc agaagaagtg ctacaagggc  
900  
tcccaggggtg acgaaggggtc cttgctgaag gtccatgtgg acccctcagg caccttcctg  
960  
gccaccagct gctctgacaa aagcatctca gtgattgact tttactcggg cgagtgcatt  
1020  
gccaagatgt ttggccattc aggtgggtgt gcctctctgc ttgggatgcc tccccaccg  
1080  
cccacaccct ctgactccga aggcaagtgc agcctctctg ctttgtttgc agaaattatt  
1140  
accagcatga agttcaccta tgactgtcat cacttgatca cagtatctgg agacagctgc  
1200  
gtgttcatct ggcacctggg cccggagatc accaactgca tgaagcagca cttgctggag  
1260  
attgaccacc ggcagcagca gcagcacaca aatgacaaga agcggagtgg ccacccagg  
1320  
tcctggcagc ccctgcctgt ccaccagagg gatgagtccc tgccagggcc ccatggagtg  
1380  
atgctgggga cacaatcctc gttgcctgct aaccaacggc aagctgccac tgtgggcaaa  
1440  
gcggctgggg acgatgatgt ggcagatggc ttggccttcc acgccaagcg cagctaccag  
1500  
cccacggcc gctgggcaga gcgggccggc caagagcccc tcaagaccat cctggatgcc  
1560  
caggacctgg attgctactt taccctcatg aagcccgaga gtctggagaa ctccattctg  
1620  
gattcactgg agccacagag cctggccagc ctgctgagtg agcagaagga atcatctgag  
1680  
gccagtgagc tcatcctcta ctctctggag gcagaagtga cagtcacagg gacagacagc  
1740  
cagtattgca ggaaggaggt ggaggccggg cctggagacc agcagggcga ctctacctc  
1800  
aggggtgtct cgcacagccc aaaggaccag agcccgctg aggggtccac agaagatgag  
1860  
ctgtccctgc ccgagggacc cagcgtcccc agcagctccc taccctagac tccggagcag  
1920  
gagaagttcc tccgccacca ctttgagaca ctgactgagt cccctgcag agctctggga  
1980  
gacgtggagg cctctgaagc tgaagaccac ttcttcaacc cagcctgag tatctccagc  
2040



cagttcctct caagcctcca gaaggcatcc aggttcaccc ataccttccc tccccgggca  
2100  
accagtgcc ttgtgaagtc tccagaggtc aagctcatgg accgaggcgg aagccagccc  
2160  
agagcaggta ctggctacgc ctccccagac aggaccact cagtgccatc tgcttcggtt  
2220  
acagctccct gccttacgag cctggcgctc tgtgtccctg ctctctcgt gctgccaca  
2280  
gacaggaatc tccaacgcc cacatctgca cccacccag gcctggctca ggggtgtccat  
2340  
gccccctcca cctgttecta catggaggcc actgccagct cccgtgccag gatatcacgc  
2400  
agcatctccc tcggtgacag tgagggccct atcgtggcca cactggccca gcccctcgt  
2460  
aggccatcgt ccgttgggga gctggcctcc ttgggccagg agcttcaggc catcaccacc  
2520  
gcgacaacac ccagtttggga cagtgagggc caagagcctg ccctgcgttc ctggggcaac  
2580  
cacgaggccc gggccaacct gagactgacc ctgtcaagtg cctgtgatgg gctcctgcag  
2640  
cccccgctgg ataccagcc tggcgctcacc gtccctgcag tgagcttccc agcccctagc  
2700  
cctgtggaag agagcgccct gaggtctccac ggctctgctt ttcgccaag tctcccagct  
2760  
cctgagtcct ctggccttcc tgcccacccc agtaaccccc agcttccaga ggcccggcct  
2820  
ggcatccctg gcggcactgc ctccctcctg gagccacact ccgggtgggg aacatcttgc  
2880  
acaggctgca gaccaccttc caagaagccc tcgaccttta ccgtgtgttg gtctccagt  
2940  
gccaggtgga caccgggcag cagcaggcac ggactgagct ggtctccacc ttctgtgga  
3000  
tccacagcca gctggaggct gaatgcctgg tggggactag tgtggcccca gccaggctc  
3060  
tgccagccc aggacccccg tccccaccga cgctgtaccc cctggccagc ccagacctgc  
3120  
aggccctgct ggaacactac tcggagctgc tgggtgcaggc cgtgcggagg aaggcacggg  
3180  
ggcactgagg gcgcagcccc tccaccgcag cctgctgct tctgaggact taggtatttt  
3240  
aagcgaataa actgacagct ttgaggaatg gttcctggtg tctgtttggg cctatccaca  
3300  
aagccctctt caagtggaag tggggaggga gggtagaagg tgatgccag aggactcgtg  
3360  
tctgtcagtg gagagcatgg gaccagcgt cccaagaagt tcaggaactg cagccatgac  
3420  
ctcagggcca gtctccac actgccaca gagctgccac agaccagtgt gaggtgctta  
3480  
cccagtgggg ccatttgtg ccccaggag gagccagacc ctctt  
3525

&lt;210&gt; 4578

&lt;211&gt; 1007

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4578

```

Met Ser His Phe Pro Asp Arg Gly Ser Glu Asn Gly Thr Pro Met Asp
 1           5           10           15
Val Lys Ala Gly Val Arg Val Met Gln Val Ser Pro Asp Gly Gln His
      20           25           30
Leu Ala Ser Gly Asp Arg Ser Gly Asn Leu Arg Gln Val Gly Pro Gly
      35           40           45
Ser Val Gln Cys Thr Pro Pro Ser Ser Ser Ser Gly Ser Gln Gly Ser
      50           55           60
Gly Gln Lys Pro Trp Pro Trp His Leu Leu Leu Pro Ile Gly Asn Glu
      65           70           75           80
Gly Leu Ile His Glu Leu His Phe Met Asp Glu Leu Val Lys Val Glu
      85           90           95
Ala His Asp Ala Glu Val Leu Cys Leu Glu Tyr Ser Lys Pro Glu Thr
      100          105          110
Gly Leu Thr Leu Leu Ala Ser Ala Ser Arg Asp Arg Leu Ile His Val
      115          120          125
Leu Asn Val Glu Lys Asn Tyr Asn Leu Glu Gln Thr Leu Asp Asp His
      130          135          140
Ser Ser Ser Ile Thr Ala Ile Lys Phe Ala Gly Asn Arg Asp Ile Gln
      145          150          155          160
Met Ile Ser Cys Gly Ala Asp Lys Ser Ile Tyr Phe Arg Ser Ala Gln
      165          170          175
Gln Gly Ser Asp Gly Leu His Phe Val Arg Thr His His Val Ala Glu
      180          185          190
Lys Thr Thr Leu Tyr Asp Met Asp Ile Asp Ile Thr Gln Lys Tyr Val
      195          200          205
Ala Val Ala Cys Gln Asp Arg Asn Val Arg Val Tyr Asn Thr Val Asn
      210          215          220
Gly Lys Gln Lys Lys Cys Tyr Lys Gly Ser Gln Gly Asp Glu Gly Ser
      225          230          235          240
Leu Leu Lys Val His Val Asp Pro Ser Gly Thr Phe Leu Ala Thr Ser
      245          250          255
Cys Ser Asp Lys Ser Ile Ser Val Ile Asp Phe Tyr Ser Gly Glu Cys
      260          265          270
Ile Ala Lys Met Phe Gly His Ser Gly Gly Cys Ala Ser Leu Leu Gly
      275          280          285
Met Pro Pro His Pro Pro Thr Pro Ser Asp Ser Glu Gly Lys Cys Ser
      290          295          300
Leu Ser Ala Leu Phe Ala Glu Ile Ile Thr Ser Met Lys Phe Thr Tyr
      305          310          315          320
Asp Cys His His Leu Ile Thr Val Ser Gly Asp Ser Cys Val Phe Ile
      325          330          335
Trp His Leu Gly Pro Glu Ile Thr Asn Cys Met Lys Gln His Leu Leu
      340          345          350
Glu Ile Asp His Arg Gln Gln Gln His Thr Asn Asp Lys Lys Arg
      355          360          365
Ser Gly His Pro Arg Ser Trp Gln Pro Leu Pro Val His Gln Arg Asp
      370          375          380
Glu Ser Leu Pro Gly Pro His Gly Val Met Leu Gly Thr Gln Ser Ser
      385          390          395          400
Leu Pro Ala Asn Gln Arg Gln Ala Ala Thr Val Gly Lys Ala Ala Gly

```

**3775**

835	840	845
Pro Ser Leu Pro Ala Pro Glu Ser Pro Gly Leu Pro Ala His Pro Ser		
850	855	860
Asn Pro Gln Leu Pro Glu Ala Arg Pro Gly Ile Pro Gly Gly Thr Ala		
865	870	875
Ser Leu Leu Glu Pro Thr Ser Gly Trp Gly Thr Ser Cys Thr Gly Cys		
	885	890
Arg Pro Pro Ser Lys Lys Pro Ser Thr Phe Thr Val Cys Trp Ser Pro		
	900	905
Val Ala Arg Trp Thr Pro Gly Ser Ser Arg His Gly Leu Ser Trp Ser		
	915	920
Pro Pro Ser Cys Gly Ser Thr Ala Ser Trp Arg Leu Asn Ala Trp Trp		
	930	935
Gly Leu Val Trp Pro Gln Pro Arg Leu Cys Pro Ala Gln Asp Pro Arg		
945	950	955
Pro His Arg Arg Cys Thr Pro Trp Pro Ala Gln Thr Cys Arg Pro Cys		
	965	970
Trp Asn Thr Thr Arg Ser Cys Trp Cys Arg Pro Cys Gly Gly Arg His		
	980	985
Gly Gly Thr Glu Gly Ala Ala Pro Pro Pro Gln Pro Cys Cys Phe		
	995	1000
		1005

&lt;210&gt; 4579

&lt;211&gt; 321

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4579

```

nncaagatgt ttggccattc agaaattatt accagcatga agttcaccta tgactgtcat
60
cacttgatca cagtatctgg agacagctgc gtgttcatct ggcacctggg cccggagatc
120
accaactgca tgaagcagca cttgctggag attgaccacc ggcagcagca gcagcacaca
180
aatgacaaga agcggagtgg cccccccagg caggatacgt atgtgtccac acctagtgg
240
attcactccc tgagccctgg agagcaaaca gaggatgatc tggaggaaga gtgtgagcca
300
gaagagatgc tgaagacacc n
321

```

&lt;210&gt; 4580

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4580

Xaa Lys Met Phe Gly His Ser Glu Ile Ile Thr Ser Met Lys Phe Thr		
1	5	10
Tyr Asp Cys His His Leu Ile Thr Val Ser Gly Asp Ser Cys Val Phe		
	20	25
Ile Trp His Leu Gly Pro Glu Ile Thr Asn Cys Met Lys Gln His Leu		
	35	40
Leu Glu Ile Asp His Arg Gln Gln Gln Gln His Thr Asn Asp Lys Lys		

50		55		60
Arg Ser Gly Pro Pro	Arg Gln Asp Thr Tyr Val	Ser Thr Pro Ser Glu		
65	70	75	80	
Ile His Ser Leu Ser	Pro Gly Glu Gln Thr Glu	Asp Asp Leu Glu Glu		
	85	90	95	
Glu Cys Glu Pro Glu	Glu Met Leu Lys Thr Pro			
100	105			

&lt;210&gt; 4581

&lt;211&gt; 1396

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4581

```

nngtcgccgg ggcgaaggcg gcagagtcag agcgggagcc gaagtcggag caggagccat
60
gggcggcgaa accgacggcg ccgggaggac gagggacggc gcagacggag gcggcggagc
120
cgggagcgca ggtcagattc agaggaagag cggtggcagc gctcagggat gcgaagccgg
180
agcccccgcg ggcccaagtg gcaactcaaga gatgggtcct ctcagtcgga ctcaggagag
240
gagcagtcac ggggccagtg ggctcgccgg cgacggcgcg cacgctcgtg gtctcctagc
300
tcctcagcat ccagctcggc gtctccaggg cgatcccaga gccccgggc ggccgcggct
360
gccctgagcc agcagcagag cctgcaggag cggctgcggc tgcgggagga gcggaagcag
420
caggaggagc tgatgaaggc cttcgagacg cccgaggaga agcgcgcacg gcggctggcc
480
aagaaggagg ccaaggagcg caagaagcgg gagaagatgg gctgggggtga ggagtacatg
540
ggctacacca acaccgacaa ccccttcgga gacaacaacc tgctgggcac cttcatcttg
600
aataaggccc tggagaagaa ggggatcagc cacctggagg agaaggagct gaaggagcgg
660
aacaagagga tccaggagga caaccggctg gagctgcaga aggtgaagca gctgcggctg
720
gagcgggagc gggagaaggc catgcgcgag caggagctgg agatgctgca gcgcgtgaag
780
gggacagagc acttcaagac atgggaggag caggaggaca acttccacct ccagcaggcc
840
aagctgcgtt ccaagatccg catccgggac gggcgggcca agcccatcga cctgctggcc
900
aagtacatca gcgctgagga tgacgatctg gccggggaga tgcattgagcc ctacacgttc
960
ctcaacggcc tcaccgtggc cgacatggag gacctgctgg aggatatcca ggtctacatg
1020
gagctggagc agggcaagaa cgccgacttc tggcgggaca tgaccaccat caccgaggac
1080
gagatctcca agctccgcaa gctggaggcc tcgggcaagg ggccagggtga gcgccgcgag
1140
gggggtcaacg cctccgtcag ctctgatgtg cagtcggtgt tcaaggggaa gacatacaac
1200

```

cagctgcagg tcattcttcca gggcatcgag ggcaaaatcc gcgctgggtgg ccccaacctg  
 1260  
 gacatgggct actgggagag cctcctgcag cagcttcgtg cccacatggc gcggggcccg  
 1320  
 ctgcgtgagc gccaccagga cgtgctgcgg cagaagctgt acaaactgaa gcaggagcag  
 1380  
 ggctgggaga gctagc  
 1396

<210> 4582

<211> 354

<212> PRT

<213> Homo sapiens

<400> 4582

Arg	Ser	Gln	Ser	Pro	Arg	Ala	Ala	Ala	Ala	Ala	Leu	Ser	Gln	Gln	Gln
1				5					10					15	
Ser	Leu	Gln	Glu	Arg	Leu	Arg	Leu	Arg	Glu	Glu	Arg	Lys	Gln	Gln	Glu
			20					25					30		
Glu	Leu	Met	Lys	Ala	Phe	Glu	Thr	Pro	Glu	Glu	Lys	Arg	Ala	Arg	Arg
		35					40					45			
Leu	Ala	Lys	Lys	Glu	Ala	Lys	Glu	Arg	Lys	Lys	Arg	Glu	Lys	Met	Gly
	50					55					60				
Trp	Gly	Glu	Glu	Tyr	Met	Gly	Tyr	Thr	Asn	Thr	Asp	Asn	Pro	Phe	Gly
65				70					75					80	
Asp	Asn	Asn	Leu	Leu	Gly	Thr	Phe	Ile	Trp	Asn	Lys	Ala	Leu	Glu	Lys
			85					90					95		
Lys	Gly	Ile	Ser	His	Leu	Glu	Glu	Lys	Glu	Leu	Lys	Glu	Arg	Asn	Lys
		100						105				110			
Arg	Ile	Gln	Glu	Asp	Asn	Arg	Leu	Glu	Leu	Gln	Lys	Val	Lys	Gln	Leu
	115					120						125			
Arg	Leu	Glu	Arg	Glu	Arg	Glu	Lys	Ala	Met	Arg	Glu	Gln	Glu	Leu	Glu
	130					135					140				
Met	Leu	Gln	Arg	Val	Lys	Gly	Thr	Glu	His	Phe	Lys	Thr	Trp	Glu	Glu
145				150					155					160	
Gln	Glu	Asp	Asn	Phe	His	Leu	Gln	Gln	Ala	Lys	Leu	Arg	Ser	Lys	Ile
			165					170						175	
Arg	Ile	Arg	Asp	Gly	Arg	Ala	Lys	Pro	Ile	Asp	Leu	Leu	Ala	Lys	Tyr
		180						185					190		
Ile	Ser	Ala	Glu	Asp	Asp	Asp	Leu	Ala	Gly	Glu	Met	His	Glu	Pro	Tyr
		195					200					205			
Thr	Phe	Leu	Asn	Gly	Leu	Thr	Val	Ala	Asp	Met	Glu	Asp	Leu	Leu	Glu
	210					215					220				
Asp	Ile	Gln	Val	Tyr	Met	Glu	Leu	Glu	Gln	Gly	Lys	Asn	Ala	Asp	Phe
225				230					235					240	
Trp	Arg	Asp	Met	Thr	Thr	Ile	Thr	Glu	Asp	Glu	Ile	Ser	Lys	Leu	Arg
			245					250						255	
Lys	Leu	Glu	Ala	Ser	Gly	Lys	Gly	Pro	Gly	Glu	Arg	Arg	Glu	Gly	Val
		260						265					270		
Asn	Ala	Ser	Val	Ser	Ser	Asp	Val	Gln	Ser	Val	Phe	Lys	Gly	Lys	Thr
		275					280					285			
Tyr	Asn	Gln	Leu	Gln	Val	Ile	Phe	Gln	Gly	Ile	Glu	Gly	Lys	Ile	Arg
	290					295					300				
Ala	Gly	Gly	Pro	Asn	Leu	Asp	Met	Gly	Tyr	Trp	Glu	Ser	Leu	Leu	Gln

305		310		315		320									
Gln	Leu	Arg	Ala	His	Met	Ala	Arg	Ala	Arg	Leu	Arg	Glu	Arg	His	Gln
		325				330				335					
Asp	Val	Leu	Arg	Gln	Lys	Leu	Tyr	Lys	Leu	Lys	Gln	Glu	Gln	Gly	Val
		340				345					350				
Glu	Ser														

&lt;210&gt; 4583

&lt;211&gt; 3350

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4583

```

nctacaatca agtggaaaaa ccggaaaaaa ggccaggaac ctgaatacga cctaatagct
60
gtttccgagg gggcaacttc cacggagaac cttctgccct ggtaacggcc agagaggagg
120
agatgacgcc agtcagggag cggccgtggc ccagacagtg aggaagcgcg aaggcggagc
180
aaccgaggaa tcctccggag aagaatcaga gccgtcgcta ccgccactac cgccaccacc
240
atggaaggag caaagccgac attgcagctc gtgtaccagg cagtgcaggc gctttaccac
300
gaccagatc ccagcggaaa ggagcgcgcc tctttttggc ttggggagct gcagcggttcg
360
gttcatgcat gggagatctc agaccagttg ttacagatcc ggcaggatgt ggagtcatgc
420
tattttgctg cacagaccat gaaaatgaag attcagacct cattttatga gctccccaca
480
gactctcatg cctctttacg ggactcattg ctaaccata tccagaactt gaaagacttg
540
tcacctgtta ttgtaacgca gctggcttta gcaatagcag atcttgcctt acagatgcct
600
tcctggaagg gatgtgtgca aacactgggtg gaaaaataca gcaatgatgt gacttctttg
660
ccttttttgc tggagatcct tacagtgtta cctgaagaag tacatagtcg ttccttacga
720
attggagcta atcggcgcac agaaattata gaagatttgg ccttctactc tagtacagta
780
gtatctctat tgatgacctg tgtagaaaaa gcaggaacag atgagaaaat gcttatgaag
840
gtttttcgct gtttgggaag ttggtttaac ttgggagttt tggacagtaa cttcatggct
900
aacaataaat tactagcact cctttttgag gttttgcaac aggataagac ctcgctctaac
960
ctacatgaag ctgcttcgga ctgtgtatgc tcagctctct atgccattga gaatgtggag
1020
actaacttgc cattagccat gcaacttttt caggagtgct tgacattgga gactgcctat
1080
catatggccg tggcacgtga agatttagac aaagttctga attactgccg tattttcact
1140
gaactatgtg aaacttttct tgaaaaaatt gtttgtactc caggccaagg tcttggggag
1200

```

cttcgaactc tggagctgct gcttatctgt gcaggccatc ctcaatatga ggtagtagaa  
1260  
atttcattta acttttggtta ccgactgggg gaacatttgt aaaaaactaa cgatgaagtt  
1320  
attcatggca tcttcaaagc ttacattcag aggctgcttc acgccttggc tcgacactgc  
1380  
cagctggaac cagaccatga ggggggttcct gaggagactg atgactttgg ggagtttcgc  
1440  
atgaggggtat cagacctggt aaaggacttg attttcttga taggggtctat ggagtgtttt  
1500  
gctcagttat attctactct gaaagaaggc aaccaccctt gggaggtgac agaagcgggt  
1560  
ctctttatca tggctgctat agcaaagagt gttgatccgg aaaacaatcc aacacttggt  
1620  
gaagtcctag aaggagttgt ccgcctcccg gagaccgtac atacggctgt gcgatacacc  
1680  
agcattgaat tggttggaga gatgagtga gtcgttgatc gaaatcctca gttccttgac  
1740  
cctgtgttg gctatttgat gaaaggcctg tgtgaaaagc ccctggcttc tgctgcagcc  
1800  
aaagccattc ataacatttg ctctgtctgc cgagatcaca tggctcagca ctttaatgga  
1860  
ctcctggaga ttgcccgctc cctcgattcc ttctgttgt ctccagaagc tgctgtgggc  
1920  
ttgctaaaag ggacagcact tgtcctagcc cgattacctt tggataagat taccgaatgt  
1980  
cttagtgaac tatgttctgt tcagggttatg gcattgaaaa agctgttgct tcaagagccc  
2040  
agcaatggca taccctcaga tcccacagtg ttcttagatc gccttgcaat gatatttagg  
2100  
cataccaatc ccattgtgga aaatggacag actcatccgt gtcagaaagt catacaggaa  
2160  
atatggccag ttttatccga gactctaaat aagcaccgag ctgataatcg gattgtagag  
2220  
cggtgttgca ggtgcctgcg ctttgctgtt cgctgtgtag gcaaaggatc tgcagcactg  
2280  
ctgcagccac tagtcacaca gatgggtgaat gtgtaccacg tacatcagca ttctgcttc  
2340  
ctgtaccttg gcagtatcct tgtggatgaa tatggcatgg aagaaggctg tcggcaggga  
2400  
ctgctagaca tgctccaggc actgtgcatc cccacctttc agctcctaga acagcagaat  
2460  
ggtctccaga atcaccctga cactgtagat gacctgttcc ggctagccac cagggttatt  
2520  
cagcgtagcc ctgtcacctt gctgcggagc caagtgggtca tccctatctt acagtgggcc  
2580  
attgcctcta ctaccctgga ccaccgggat gccaatgta gtgtcatgag gtttctacga  
2640  
gacctcattc atacaggggt agccaatgat catgaagaag actttgaatt acggaaagaa  
2700  
ctgattggac aggtgatgaa ccagcttgga cagcagcttg tcagccagct gctgcacacc  
2760  
tgctgctttt gcctccccc ctatacccta ccagatgtgg ctgaagtgtc ctgggagatc  
2820



atgcaggttg acagaccgac tttttgtcga tggtagaaa attccttaaa aggtttgcc  
 2880  
 aaggaaacaa ccgtgggagc cgtcacagt acacacaaac aacttacaga cttccacaag  
 2940  
 caagtcacta gtgctgagga atgtaaacia gtttgctggg ccttgcgaga cttcaccagg  
 3000  
 ttgtttcgat agctcacact cctgcactgt gcctgtcacc caggaatgtc ttttttaatt  
 3060  
 agaagacagg aagaaaacia aaaccagact gtgtcccaca atcagaaacc tccgttggtg  
 3120  
 cagagggggcc ttcaccgcca ccagggtgtc ccgccagaca gggagagact ccagccttct  
 3180  
 gaggccatcc tgaggagtgc ctgtttgggg gtgtgagggg aaatcagcgc ggattttaaa  
 3240  
 aagatggctg tggcctgccc ggcgtggtgg gaggggagct ggtttcctgg tgaactttct  
 3300  
 aaaaggaaaa ataattttta gtaaagaaaa aaggaaaaaa aggaagacta  
 3350

<210> 4584

<211> 923

<212> PRT

<213> Homo sapiens

<400> 4584

Met	Glu	Gly	Ala	Lys	Pro	Thr	Leu	Gln	Leu	Val	Tyr	Gln	Ala	Val	Gln
1				5					10					15	
Ala	Leu	Tyr	His	Asp	Pro	Asp	Pro	Ser	Gly	Lys	Glu	Arg	Ala	Ser	Phe
			20					25					30		
Trp	Leu	Gly	Glu	Leu	Gln	Arg	Ser	Val	His	Ala	Trp	Glu	Ile	Ser	Asp
		35					40					45			
Gln	Leu	Leu	Gln	Ile	Arg	Gln	Asp	Val	Glu	Ser	Cys	Tyr	Phe	Ala	Ala
	50					55					60				
Gln	Thr	Met	Lys	Met	Lys	Ile	Gln	Thr	Ser	Phe	Tyr	Glu	Leu	Pro	Thr
65					70					75				80	
Asp	Ser	His	Ala	Ser	Leu	Arg	Asp	Ser	Leu	Leu	Thr	His	Ile	Gln	Asn
				85					90					95	
Leu	Lys	Asp	Leu	Ser	Pro	Val	Ile	Val	Thr	Gln	Leu	Ala	Leu	Ala	Ile
			100					105					110		
Ala	Asp	Leu	Ala	Leu	Gln	Met	Pro	Ser	Trp	Lys	Gly	Cys	Val	Gln	Thr
		115				120						125			
Leu	Val	Glu	Lys	Tyr	Ser	Asn	Asp	Val	Thr	Ser	Leu	Pro	Phe	Leu	Leu
	130					135					140				
Glu	Ile	Leu	Thr	Val	Leu	Pro	Glu	Glu	Val	His	Ser	Arg	Ser	Leu	Arg
145					150					155				160	
Ile	Gly	Ala	Asn	Arg	Arg	Thr	Glu	Ile	Ile	Glu	Asp	Leu	Ala	Phe	Tyr
			165					170						175	
Ser	Ser	Thr	Val	Ser	Leu	Leu	Met	Thr	Cys	Val	Glu	Lys	Ala	Gly	
			180				185					190			
Thr	Asp	Glu	Lys	Met	Leu	Met	Lys	Val	Phe	Arg	Cys	Leu	Gly	Ser	Trp
		195					200					205			
Phe	Asn	Leu	Gly	Val	Leu	Asp	Ser	Asn	Phe	Met	Ala	Asn	Asn	Lys	Leu
	210					215					220				
Leu	Ala	Leu	Leu	Phe	Glu	Val	Leu	Gln	Gln	Asp	Lys	Thr	Ser	Ser	Asn

```

225          230          235          240
Leu His Glu Ala Ala Ser Asp Cys Val Cys Ser Ala Leu Tyr Ala Ile
          245          250          255
Glu Asn Val Glu Thr Asn Leu Pro Leu Ala Met Gln Leu Phe Gln Gly
          260          265          270
Val Leu Thr Leu Glu Thr Ala Tyr His Met Ala Val Ala Arg Glu Asp
          275          280          285
Leu Asp Lys Val Leu Asn Tyr Cys Arg Ile Phe Thr Glu Leu Cys Glu
          290          295          300
Thr Phe Leu Glu Lys Ile Val Cys Thr Pro Gly Gln Gly Leu Gly Asp
305          310          315          320
Leu Arg Thr Leu Glu Leu Leu Leu Ile Cys Ala Gly His Pro Gln Tyr
          325          330          335
Glu Val Val Glu Ile Ser Phe Asn Phe Trp Tyr Arg Leu Gly Glu His
          340          345          350
Leu Tyr Lys Thr Asn Asp Glu Val Ile His Gly Ile Phe Lys Ala Tyr
          355          360          365
Ile Gln Arg Leu Leu His Ala Leu Ala Arg His Cys Gln Leu Glu Pro
          370          375          380
Asp His Glu Gly Val Pro Glu Glu Thr Asp Asp Phe Gly Glu Phe Arg
385          390          395          400
Met Arg Val Ser Asp Leu Val Lys Asp Leu Ile Phe Leu Ile Gly Ser
          405          410          415
Met Glu Cys Phe Ala Gln Leu Tyr Ser Thr Leu Lys Glu Gly Asn Pro
          420          425          430
Pro Trp Glu Val Thr Glu Ala Val Leu Phe Ile Met Ala Ala Ile Ala
          435          440          445
Lys Ser Val Asp Pro Glu Asn Asn Pro Thr Leu Val Glu Val Leu Glu
          450          455          460
Gly Val Val Arg Leu Pro Glu Thr Val His Thr Ala Val Arg Tyr Thr
465          470          475          480
Ser Ile Glu Leu Val Gly Glu Met Ser Glu Val Val Asp Arg Asn Pro
          485          490          495
Gln Phe Leu Asp Pro Val Leu Gly Tyr Leu Met Lys Gly Leu Cys Glu
          500          505          510
Lys Pro Leu Ala Ser Ala Ala Ala Lys Ala Ile His Asn Ile Cys Ser
          515          520          525
Val Cys Arg Asp His Met Ala Gln His Phe Asn Gly Leu Leu Glu Ile
          530          535          540
Ala Arg Ser Leu Asp Ser Phe Leu Leu Ser Pro Glu Ala Ala Val Gly
545          550          555          560
Leu Leu Lys Gly Thr Ala Leu Val Leu Ala Arg Leu Pro Leu Asp Lys
          565          570          575
Ile Thr Glu Cys Leu Ser Glu Leu Cys Ser Val Gln Val Met Ala Leu
          580          585          590
Lys Lys Leu Leu Ser Gln Glu Pro Ser Asn Gly Ile Ser Ser Asp Pro
          595          600          605
Thr Val Phe Leu Asp Arg Leu Ala Val Ile Phe Arg His Thr Asn Pro
          610          615          620
Ile Val Glu Asn Gly Gln Thr His Pro Cys Gln Lys Val Ile Gln Glu
625          630          635          640
Ile Trp Pro Val Leu Ser Glu Thr Leu Asn Lys His Arg Ala Asp Asn
          645          650          655
Arg Ile Val Glu Arg Cys Cys Arg Cys Leu Arg Phe Ala Val Arg Cys

```

9.

9.

9.

cggtacaata gaattaaagc gcttccttct gggattggag ctcaccagca tttgaaaact  
480  
ttgcttttag aaagaaatcc tatcaaatg ttacctgtgg agctggggag cgtaaccacg  
540  
ctgaaagcac tgaacctaag acactgccct ctggaattcc ctctcagct cgttgtgcag  
600  
aagggattgg tggctatcca gcgcttctg cggatgtggg cagtagaaca ctctctcccc  
660  
agaaatccaa cttctcaaga ggctccaccg gttagagaga tgaccctccg tgacctcccg  
720  
agcccaggac tggagtgtc tggagaccac gcgtctaacc aaggagctgt gaacgctcag  
780  
gacccagagg gggctgtgat gaaagagaag gccagcttct tccgcctgt ggaaaagcca  
840  
gacctgagtg aactcaggaa gtctgcggac tcctcagaga actggcccag cgaggaggag  
900  
atcaggcgct tttggaagct gaggcaggag attgttgagc acgtgaaggc agacgttctg  
960  
ggagatcagc tcttgacgag ggaattacct ccaaattctca aggcggcctt gaacattgag  
1020  
aaagaactac caaagccaag acacgttttc agaaggaaga cagcctctc caggagcatc  
1080  
ttacccgacc tcttgatcac gtaccaaagc gcgatccgag caaaaagact ggaagagagc  
1140  
cgagcggcgg cgctccgaga gctccaggag aagcaggctc tgatggagca gcagagacga  
1200  
gagaaaaggg cactgcagga gtggagagag cgagcccaga ggatgaggaa gaggaaggaa  
1260  
gagctcagca aactcctgcc tccgcggagg agcatggtgg catcaaagat tccctctgcc  
1320  
acagatctga tagataacag gaaagtacca ctgaatccgc ctggaaaaat gaaaccaagc  
1380  
aaagagaaat cgccacaagc aagtaaagaa atgagtgtcc tgcaggagag aaatttagaa  
1440  
gagaagataa aacagcacgt cctccaaatg cgtgagcaaa gaagattcca tggccaggcc  
1500  
ccactggagg agatgaggaa ggctgccgag gatctggaaa ttgccacaga gctacaggat  
1560  
gaagtattga agctaaaatt gggattaacc ttgaacaaag atcgtcgacg ggcggccctc  
1620  
actggaaacc tttcgcttgg cctgccggca gcacagcctc aaaatacatt ttttaacaca  
1680  
aaatatggag aatcaggaaa tgttcgagc taccagtgc accaggtggc tggactgatg  
1740  
gagacgtctt cagacaggag ccgctcagtc ttctttcccg gcgtcgctc ctgtgtggtg  
1800  
ccggaagagc gccagggttc gtgttacct gagggctgat ttcgctcagc ctgttgtttt  
1860  
ccttagacag gtccacgtcc ctctcctgag gctgtggaag atttcagccg tattaaga  
1920  
aaggacactg tgaaaaaaaa aaaaaaaaaa aa  
1952

&lt;210&gt; 4586

<211> 530  
 <212> PRT  
 <213> Homo sapiens

<400> 4586

```

Met Glu Gly Ser Ser Ser Tyr Glu Val Pro Ser Val Ala Ala Ala Asp
 1          5          10          15
Leu Glu Glu Gly Ala Gly Gln Thr Arg Ser Leu Pro Ala Thr Pro Ser
          20          25          30
Lys Asp Val His Lys Gly Val Gly Gly Ile Ile Phe Ser Ser Ser Pro
          35          40          45
Ile Leu Asp Leu Ser Glu Ser Gly Leu Cys Arg Leu Glu Glu Val Phe
          50          55          60
Arg Ile Pro Ser Leu Gln Gln Leu His Leu Gln Arg Asn Ala Leu Cys
65          70          75          80
Val Ile Pro Gln Asp Phe Phe Gln Leu Leu Pro Asn Leu Thr Trp Leu
          85          90          95
Asp Leu Arg Tyr Asn Arg Ile Lys Ala Leu Pro Ser Gly Ile Gly Ala
          100          105          110
His Gln His Leu Lys Thr Leu Leu Leu Glu Arg Asn Pro Ile Lys Met
          115          120          125
Leu Pro Val Glu Leu Gly Ser Val Thr Thr Leu Lys Ala Leu Asn Leu
          130          135          140
Arg His Cys Pro Leu Glu Phe Pro Pro Gln Leu Val Val Gln Lys Gly
145          150          155          160
Leu Val Ala Ile Gln Arg Phe Leu Arg Met Trp Ala Val Glu His Ser
          165          170          175
Leu Pro Arg Asn Pro Thr Ser Gln Glu Ala Pro Pro Val Arg Glu Met
          180          185          190
Thr Leu Arg Asp Leu Pro Ser Pro Gly Leu Glu Leu Ser Gly Asp His
          195          200          205
Ala Ser Asn Gln Gly Ala Val Asn Ala Gln Asp Pro Glu Gly Ala Val
          210          215          220
Met Lys Glu Lys Ala Ser Phe Leu Pro Pro Val Glu Lys Pro Asp Leu
225          230          235          240
Ser Glu Leu Arg Lys Ser Ala Asp Ser Ser Glu Asn Trp Pro Ser Glu
          245          250          255
Glu Glu Ile Arg Arg Phe Trp Lys Leu Arg Gln Glu Ile Val Glu His
          260          265          270
Val Lys Ala Asp Val Leu Gly Asp Gln Leu Leu Thr Arg Glu Leu Pro
          275          280          285
Pro Asn Leu Lys Ala Ala Leu Asn Ile Glu Lys Glu Leu Pro Lys Pro
          290          295          300
Arg His Val Phe Arg Arg Lys Thr Ala Ser Ser Arg Ser Ile Leu Pro
305          310          315          320
Asp Leu Leu Ser Pro Tyr Gln Met Ala Ile Arg Ala Lys Arg Leu Glu
          325          330          335
Glu Ser Arg Ala Ala Ala Leu Arg Glu Leu Gln Glu Lys Gln Ala Leu
          340          345          350
Met Glu Gln Gln Arg Arg Glu Lys Arg Ala Leu Gln Glu Trp Arg Glu
          355          360          365
Arg Ala Gln Arg Met Arg Lys Arg Lys Glu Glu Leu Ser Lys Leu Leu
          370          375          380
Pro Pro Arg Arg Ser Met Val Ala Ser Lys Ile Pro Ser Ala Thr Asp

```

```

385          390          395          400
Leu Ile Asp Asn Arg Lys Val Pro Leu Asn Pro Pro Gly Lys Met Lys
          405          410          415
Pro Ser Lys Glu Lys Ser Pro Gln Ala Ser Lys Glu Met Ser Ala Leu
          420          425          430
Gln Glu Arg Asn Leu Glu Glu Lys Ile Lys Gln His Val Leu Gln Met
          435          440          445
Arg Glu Gln Arg Arg Phe His Gly Gln Ala Pro Leu Glu Glu Met Arg
          450          455          460
Lys Ala Ala Glu Asp Leu Glu Ile Ala Thr Glu Leu Gln Asp Glu Val
465          470          475          480
Leu Lys Leu Lys Leu Gly Leu Thr Leu Asn Lys Asp Arg Arg Arg Ala
          485          490          495
Ala Leu Thr Gly Asn Leu Ser Leu Gly Leu Pro Ala Ala Gln Pro Gln
          500          505          510
Asn Thr Phe Phe Asn Thr Lys Tyr Gly Glu Ser Gly Asn Val Arg Arg
          515          520          525
Tyr Gln
530

```

<210> 4587  
 <211> 1723  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4587
nnaaattttg tcaagaagcg gaggtcttta gaacggagag gctttctgag taaaaagaac
60
caaccccccta gcaaggcgcc taagttgcac tctgaacctt caaagaaagg ggaaactcct
120
acggtcgatg gcacttggaa gacccttcc ttcccaaaaa agaagacagc tgcttccagc
180
aatgggtcag gacagccctt ggacaagaaa gctgcagtgt cttggttgac cctgcccctt
240
tcaaaaaagg ctgattctgt tgctgctaaa gtagatttgc tgggggagtt ccagagtgc
300
cttccaaaga tcaatagcca cccaaccgc tctcagaaga agagctcca gaagaaatcc
360
tctaaaaaga accatcctca gaagaatgcc ccacagaact ccaccaagc tcattcagag
420
aataaatgct ccggagcatc ccagaagttg ccacggaaga tgggtggcaat tgactgtgag
480
atggtgggca caggacaaa ggggcatgtt agttccttgg ctcgatgtag cattgtcaac
540
tacaacggag atgtgcttta tgacgagtac attcttcccc cctgccacat tgtggactac
600
cgaaccaggt ggagtgggtat ccggaagcag cacatggtga atgccacacc cttcaagatt
660
gctcgaggcc agatcttgaa gatactcaca gggaagatag tgggtgggca tgccatccac
720
aacgacttca aagcccttca gtactttcac cccaagtccc tcacccgtga cacctcccat
780
atcccccccc tcaaccggaa ggctgactgc ccggagaatg ccaccatgtc tctgaagcat
840

```

ctcaccaaga agctgctaaa ccgggatatc caggttggga agagcggaca ttcctctgtg  
 900  
 gaagatgccc aggccaccat ggagctatat aagttggttg aagtcgagtg ggaagagcac  
 960  
 ctagcccgga atccccctac agactagtgg cagtggggac gctggtgata tgaggaggca  
 1020  
 gaggcagcac ccaggagaaa cagggcagtg gaccaatgga cagctccacc agctccacat  
 1080  
 ctttggaagc tagatttggg gagagagaag ctctacccca gacttaatac ccattgaaat  
 1140  
 ttcacctcag gtgttgtgtc ctgtgtctgg ttaagtgtcc catggaaggg gaaagccttc  
 1200  
 acgtcagaac ccaaccctat accttttact tcttaaattg tgctaaccac aggtgtccca  
 1260  
 ggggtgctctg tgccagttaa gatttttaac tttcaagggg cagggcatac tgggaaatgt  
 1320  
 agtttcccaa actgccttat cacttgggtg gacatatgtc tccttttatg ccttttggtc  
 1380  
 ttgagtaatt aacagcatcc tcttcacgc tcagaagtgt tctggttggg gccaggcatg  
 1440  
 gtcgtcacgc ctgtagtccc aacacttagg gagtccgagg cgggcggatc acctgagatc  
 1500  
 aggagttaa gaccagcctg gccaacatgg cgaattcccg ttctctacta aaaatacaaa  
 1560  
 aaatgtgtgg ggtgtggtgg caggagcctg taatcctagc tactcaggag gctgaggcag  
 1620  
 gagaatcgct tgagcccagg aggcggagat tgcagtgagc cgagatcgct tcaactgcact  
 1680  
 ccagcctggg tgacaagagt gagactccgt ctccaaaaaa aaa  
 1723

<210> 4588

<211> 328

<212> PRT

<213> Homo sapiens

<400> 4588

Xaa	Asn	Phe	Val	Lys	Lys	Arg	Arg	Leu	Leu	Glu	Arg	Arg	Gly	Phe	Leu
1				5				10					15		
Ser	Lys	Lys	Asn	Gln	Pro	Pro	Ser	Lys	Ala	Pro	Lys	Leu	His	Ser	Glu
			20					25				30			
Pro	Ser	Lys	Lys	Gly	Glu	Thr	Pro	Thr	Val	Asp	Gly	Thr	Trp	Lys	Thr
			35				40				45				
Pro	Ser	Phe	Pro	Lys	Lys	Lys	Thr	Ala	Ala	Ser	Ser	Asn	Gly	Ser	Gly
			50			55				60					
Gln	Pro	Leu	Asp	Lys	Lys	Ala	Ala	Val	Ser	Trp	Leu	Thr	Pro	Ala	Pro
65				70				75						80	
Ser	Lys	Lys	Ala	Asp	Ser	Val	Ala	Ala	Lys	Val	Asp	Leu	Leu	Gly	Glu
			85					90				95			
Phe	Gln	Ser	Ala	Leu	Pro	Lys	Ile	Asn	Ser	His	Pro	Thr	Arg	Ser	Gln
			100				105					110			
Lys	Lys	Ser	Ser	Gln	Lys	Lys	Ser	Ser	Lys	Lys	Asn	His	Pro	Gln	Lys
			115				120				125				
Asn	Ala	Pro	Gln	Asn	Ser	Thr	Gln	Ala	His	Ser	Glu	Asn	Lys	Cys	Ser

130		135		140											
Gly	Ala	Ser	Gln	Lys	Leu	Pro	Arg	Lys	Met	Val	Ala	Ile	Asp	Cys	Glu
145					150					155					160
Met	Val	Gly	Thr	Gly	Pro	Lys	Gly	His	Val	Ser	Ser	Leu	Ala	Arg	Cys
				165					170						175
Ser	Ile	Val	Asn	Tyr	Asn	Gly	Asp	Val	Leu	Tyr	Asp	Glu	Tyr	Ile	Leu
			180					185					190		
Pro	Pro	Cys	His	Ile	Val	Asp	Tyr	Arg	Thr	Arg	Trp	Ser	Gly	Ile	Arg
		195					200					205			
Lys	Gln	His	Met	Val	Asn	Ala	Thr	Pro	Phe	Lys	Ile	Ala	Arg	Gly	Gln
	210					215					220				
Ile	Leu	Lys	Ile	Leu	Thr	Gly	Lys	Ile	Val	Val	Gly	His	Ala	Ile	His
225					230					235					240
Asn	Asp	Phe	Lys	Ala	Leu	Gln	Tyr	Phe	His	Pro	Lys	Ser	Leu	Thr	Arg
			245					250						255	
Asp	Thr	Ser	His	Ile	Pro	Pro	Leu	Asn	Arg	Lys	Ala	Asp	Cys	Pro	Glu
		260						265					270		
Asn	Ala	Thr	Met	Ser	Leu	Lys	His	Leu	Thr	Lys	Lys	Leu	Leu	Asn	Arg
	275						280					285			
Asp	Ile	Gln	Val	Gly	Lys	Ser	Gly	His	Ser	Ser	Val	Glu	Asp	Ala	Gln
	290				295						300				
Ala	Thr	Met	Glu	Leu	Tyr	Lys	Leu	Val	Glu	Val	Glu	Trp	Glu	Glu	His
305				310					315						320
Leu	Ala	Arg	Asn	Pro	Pro	Thr	Asp								
				325											

&lt;210&gt; 4589

&lt;211&gt; 585

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4589

acgcgtgaag ggggcttggg agcctcgggg cgcgagctgt gttggaagca aagtcctcct  
 60  
 tgtgggttgg ggtggctgag ggagaaggga agcgagggtc gcggcgggac cagacgcccc  
 120  
 agtcccggcc cgcccgcgac tactgaaggc gctgccgcct gacctgaacg ggcacttgtg  
 180  
 ttccagctcc cctgggacct gtggccgccc cccacagacc atgctcctgg ggcgcctgac  
 240  
 ttcccagctg ttgagggccg ttccttgggc aggtaggaag ccccgcgggc ganctgggag  
 300  
 gatgcacacc tggtaggag tgcgggtctc agcagctccg ctggggcagg gcggtggcca  
 360  
 cacacacact ctttcccctc taagcttccg atgctcacag agggaaacctc aggggttcag  
 420  
 gccaggaatg aggtgcgggg gatcctcgct gggacgaacc tgctgctccc caaccgacg  
 480  
 ggcctgtgtg gtctcgcgag cggtgaccgt ggcgtctggt tttctgcagg cggccgcccc  
 540  
 ccttgggccc tctctggagt gctgggcagc cgggtctgcg ggccc  
 585

&lt;210&gt; 4590



<211> 121  
 <212> PRT  
 <213> Homo sapiens

<400> 4590

```

Met Leu Leu Gly Arg Leu Thr Ser Gln Leu Leu Arg Ala Val Pro Trp
 1           5           10           15
Ala Gly Arg Lys Pro Arg Gly Gly Xaa Gly Arg Met His Thr Trp Leu
      20           25           30
Gly Val Arg Val Ser Ala Ala Pro Leu Gly Gln Gly Gly Gly His Thr
      35           40           45
His Thr Leu Ser Pro Leu Ser Phe Arg Cys Ser Gln Arg Glu Pro Gln
      50           55           60
Gly Phe Arg Pro Gly Met Arg Cys Gly Gly Ser Ser Leu Gly Arg Thr
65           70           75           80
Cys Cys Ser Pro Thr Arg Arg Ala Cys Val Val Ser Arg Ala Val Thr
      85           90           95
Val Ala Ser Gly Phe Leu Gln Ala Ala Arg Leu Gly Pro Ser Leu
      100          105          110
Glu Cys Trp Ala Ala Gly Ser Ala Gly
      115          120

```

<210> 4591  
 <211> 496  
 <212> DNA  
 <213> Homo sapiens

<400> 4591

```

aaatttggcc caccgcctac ttttgtagac gacgttttat gggaacacag acacccccgt
60
ccgtgtactt ccatggcttc tttcacaggt cagctgcaga gctaagtaac tgtgacaggg
120
accacttggc taagaaagcc tccagtattt actcgactgc cctgtgcttt ggactcaaaa
180
gagctcctct ctggccctct ggccacgata gtctccatga gacacggaag ctacgatgct
240
tggcagacag gcttgtgagc ccacaccctg cctccagccc aggetccagg tacctgcccc
300
agaattccct gcacaagtgg cccaagctt gtgctggtct gtggggggtt cttccctggg
360
ctgttgctct gggcatgtgc agtcctcagg ctgatgggca gctatgggaa ggctgggtcat
420
gcaggctggg tatccacaca cctgcacacg tggcttctcc tagtgcagta tggagtcagg
480
gatgggcccgg gaaggg
496

```

<210> 4592  
 <211> 152  
 <212> PRT  
 <213> Homo sapiens

<400> 4592

```

Met Gly Thr Gln Thr Pro Pro Ser Val Tyr Phe His Gly Phe Phe His

```

```

1           5           10           15
Arg Ser Ala Ala Glu Leu Ser Asn Cys Asp Arg Asp His Leu Ala Lys
20           25           30
Lys Ala Ser Ser Ile Tyr Ser Thr Ala Leu Cys Phe Gly Leu Lys Arg
35           40           45
Ala Pro Leu Trp Pro Ser Gly His Asp Arg Leu His Glu Thr Arg Lys
50           55           60
Leu Arg Cys Leu Ala Asp Arg Leu Val Ser Pro His Pro Ala Ser Ser
65           70           75           80
Pro Gly Ser Arg Tyr Leu Pro Gln Asn Ser Leu His Lys Trp Pro Gln
85           90           95
Ala Cys Ala Gly Leu Trp Gly Phe Leu Pro Trp Ala Val Val Leu Gly
100          105          110
Met Cys Ser Pro Gln Ala Asp Gly Gln Leu Trp Glu Gly Trp Ser Cys
115          120          125
Arg Leu Gly Ile His Thr Pro Ala His Val Ala Ser Pro Ser Ala Val
130          135          140
Trp Ser Gln Gly Trp Ala Gly Lys
145          150

```

&lt;210&gt; 4593

&lt;211&gt; 4783

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4593

```

aatcatgaaa atctatTTTT acagcccccc aaattgtccc gagaagagcc ttctaattcct
60
ttcttggcat ttgtggagaa agttgaacac agccctttca gtagttttgc atctcaggca
120
tcaggtagct cctcttctgc taccactgtc acctccaagg tggcaccag ctggcccag
180
tctcactcct ctgcagattc ggcatcttta gcaaagaaga aaccctctt cattacaact
240
gactcctcca agctagtatc tgggtgttctg ggctcagctc ttaccagtgg gggcccaagc
300
ctctctgcca tggggaatgg ccgctccagc tcgcccacca gcagcctcac tcagcccatt
360
gagatgccaa ctctctcctc tagccccaca gaggagaggc caactgtggg gcctgggcag
420
caggacaatc ccctcctcaa aacctttagt aacgtctttg gcaggcactc aggcggttt
480
ctgtcctccc cggcagattt ttcacaggag aacaaagctc cttttgaagc tgtgaaaagg
540
ttctcactgg atgaacgaag cttggcttgc agacaagact cggactccag caccaacagt
600
gacctgtcag atttgagtga ctctgaggag cagctgcagg ctaagacagg cctgaaggga
660
attccagagc acctgatggg gaagctgggc cccaatgggg agcgagctgc tgagctgttg
720
ctgggcaaaa gcaaaggga gaggccccc aagggccggc ctgggactgc cccctgaaa
780
gttggccagt cagtgtgaa agatgtaagc aaagtgaaga agctgaagca atctggagag
840

```

cccttcctgc aggatgggtc atgcatcaat gtggcacctc atctgcacaa gtgtcgtgaa  
900  
tgccgcctgg agcgggtaccg gaagtttaag gaacaggagc aagatgattc tactgtagcc  
960  
tgccgtttct ttcacttccg gaggttgatc ttcactcgaa aaggggtgct ccgtgtggag  
1020  
gggtttttta gccccagca aagtgaccct gatgccatga acctgtggat tccctcttcc  
1080  
tccctagcag aagggataga tctagagacc tcaaaatata tcctggccaa tgttggggac  
1140  
cagttctgcc agctcgtaat gtctgagaag gaggccatga tgatggtgga gccacaccag  
1200  
aaagtggcat ggaagcgagc tgtgcgtggt gtacgggaga tgtgtgatgt gtgtgaaaca  
1260  
actctcttca acatccactg ggtttgtcgc aaatgtggat ttgggggtctg ccttgactgt  
1320  
taccggctca ggaaaagccg gccacgcagt gagacagaag agatgggtga tgaagaagtt  
1380  
ttctcctggt tgaagtgtgc aaagggacag tcccacgaac cagagaatct catgcccaca  
1440  
caaattattc ctggcacagc tctttacaat attggagaca tgggtacatgc tgcccggggc  
1500  
aagtggggaa ttaaagcaaa ctgcccttgt atcagtcgac agaacaaatc tgtattgaga  
1560  
cctgccgtca ccaatgggat gtcacagctt cctagcataa accctagtgc ctcttctgga  
1620  
aacgaaacta ccttctctgg tggaggagga ccggcaccag taacaactcc agagccggac  
1680  
catgttccca aagccgacag cactgacatc agatctgaag agcctctgaa aacagacagt  
1740  
tcggcgtcaa atagcaatag tgaactgaaa gccatcaggc ctccctgccc tgacacggcc  
1800  
ccacctcct ccgccctgca ctggttgga gatttagcaa ctcagaaggc taaagaagaa  
1860  
acaaaagaag cagggtccct gaggtcgggt ctcaataaag agtctcatc accctttggg  
1920  
ctggaactgt tcaactccac tgcaaaggct tctccgctga ctccaaagct ttttaacagt  
1980  
ctgttgctgg gtccactgc ctccaacaac aaaaccgaag ggtctagcct tcgagacctc  
2040  
cttcaactcc ggccgggaaa acttctctca acccccttgg acacaggcat accctttccc  
2100  
ccggtcttct ctacatcctc agcaggagtg aagagcaagg ccagcctacc caactttctt  
2160  
gaccacatca ttgcctcagt ggtagaaaat aagaaaacct cagatgcttc aaagcgggac  
2220  
tgcaacttga ctgataccca gaaggaagtg aaggagatgg tgatgggggtt aaatgtgcta  
2280  
gatccccata cttctcactc ctggctttgt gatgggaggc ttctgtgtct ccatgacccc  
2340  
agcaacaaaa acaattggaa gatcttccgg gagtggtgga agcaagggtca gccagtgtg  
2400  
gtttcggggg tacataaaaa gctcaagtct gagctctgga agccagaagc ctttagccag  
2460

gaatttggag accaggatgt agacttgggtg aactgcagga actgtgctat aatttccgat  
2520  
gtgaaagtgc gggatttctg ggatgggttc gagatcatat gcaaacgact acggtcagaa  
2580  
gatgggcagc caatgggtgct caaactcaag gactggcctc ctggggaaga ttttcgagac  
2640  
atgatgccaa ccaggtttga agatctgatg gagaaccttc ctctgccaga atataccaaa  
2700  
cgagatggca ggctcaatct ggcctctagg ctacctagct actttgtaag gcctgatctg  
2760  
ggccccaaga tgtacaacgc ctatgggttg ataacagcag aagatagaag agttggtaca  
2820  
acaaatcttc acttagatgt gtctgatgct gttaatgtga tgggtgatgt tgggattccc  
2880  
atcggggagg gtgctcatga tgaagaggta ctcaagacaa ttgacgaggg agatgccgat  
2940  
gaggtgacga agcagaggat tcatgatgga aaagagaagc cagggtgcttt atggcacatc  
3000  
tatgcagcca aggatgcaga gaagatccgg gagctgctcc gaaagggttg agaagaacaa  
3060  
ggccaagaga acccccctga tcatgacca attcatgacc aaagttggta cctggaccag  
3120  
accctccgta agcgactcta tgaggagtat ggcgtgcaag gctgggctat tgtgcagttc  
3180  
ctaggtgatg ctgttttcat acctgctgga gcccacacc aggttcacaa tctatacagt  
3240  
tgcataaaaag tagcagaaga ctttgtatct ccagaacatg taaagcactg tttccgcctg  
3300  
actcaggaat tcaggcatct ctctaacact catacaaac atgaggataa actgcagggtg  
3360  
aagaacatca tttaccatgc agtgaaagat gcggttggca cctcaaggc tcatgaatcc  
3420  
aaactggcaa ggtcctaggc atggagaaac tccaagctcc tctgtgaagc aggtctttca  
3480  
ctcacaacac ttaacaggga acggcagggc tctttgctgg agcagaggcc cttcaccag  
3540  
agccagtgtg gtcagtattc caaactctcc agccactctc ttctacgctg cctcaacact  
3600  
gaagggtgac acaggaaagt cgtactgttc acacacacag tttgagactc caagccaaga  
3660  
gtgccacatc cctatcctgt ggccttttgg aaatccaaat tgccctgaaca tggcggggct  
3720  
ttcctgcaca ttctcctgat ttgagattca cgggcacacc tttcttttct tttcctcttg  
3780  
tgccctagtta agtgggaatg tgtttggaga taggggaaat cacataactg gtacaagtat  
3840  
ggggtaattg cttaaacatg cctggtggaa gtctgatagc gtctctgcac gtgacctctg  
3900  
acaaagccca tcccaggaga cgggggtgaag ctattcccca cactctcctg tgaacactgg  
3960  
agtcttgcaa gaccagggga gaaccactg cttttccag gaggtccag gattaggaaa  
4020  
tgtgtgtatt tagtgaaaaa tagatttgta gtgaaatagt tactatttca tgaaagtaga  
4080

tatttttaga atttttgaaa taccacagtt gttttcctgg attataagga aaggcacatt  
 4140  
 acatttagtc ttcctttcga tataaaactc tttgaagaaa tatgattttt agaaatcagc  
 4200  
 taccattat agcacaaaat cagccaaagc agaattttta aaaattggct tttttaggat  
 4260  
 tctttttctc cccctcccat cttagtctta ccttgaggga acagtcatat gagaaggaac  
 4320  
 tttgtcacat ctaagctgtg gtgtgttccc catgtgtgtg tacaacactg gtgactccag  
 4380  
 gaaccatttt cacctattac cagtgttccc tggggactcc tcttaatggt tccaaatggg  
 4440  
 aaggacagtt gatttccaac atgagggttt ttgtttttta tccagaaata ttttcagcaa  
 4500  
 aactttccaa ctgagtggag tctgattaag gatttatttg aaaatggtgg gattcattgg  
 4560  
 cccataggta cattggaaaa tgtatatctc tccagctgta ctgtagtgcc ctgcaggctg  
 4620  
 tttatatgtt cacagttact tttttttttt tttaaataaa agtcatttaa tgtagaatac  
 4680  
 ttttaatttc actttctgta ttttaatttt gttgaagggc tgattgggat ttccatgttc  
 4740  
 ttattaaaaa tctaacaaat caaaaaaaaaa aaaaaaaaaa aaa  
 4783

<210> 4594

<211> 1145

<212> PRT

<213> Homo sapiens

<400> 4594

Asn	His	Glu	Asn	Leu	Phe	Leu	Gln	Pro	Pro	Lys	Leu	Ser	Arg	Glu	Glu
1			5					10						15	
Pro	Ser	Asn	Pro	Phe	Leu	Ala	Phe	Val	Glu	Lys	Val	Glu	His	Ser	Pro
		20						25					30		
Phe	Ser	Ser	Phe	Ala	Ser	Gln	Ala	Ser	Gly	Ser	Ser	Ser	Ser	Ala	Thr
		35					40						45		
Thr	Val	Thr	Ser	Lys	Val	Ala	Pro	Ser	Trp	Pro	Glu	Ser	His	Ser	Ser
		50				55					60				
Ala	Asp	Ser	Ala	Ser	Leu	Ala	Lys	Lys	Lys	Pro	Leu	Phe	Ile	Thr	Thr
65					70					75				80	
Asp	Ser	Ser	Lys	Leu	Val	Ser	Gly	Val	Leu	Gly	Ser	Ala	Leu	Thr	Ser
			85						90					95	
Gly	Gly	Pro	Ser	Leu	Ser	Ala	Met	Gly	Asn	Gly	Arg	Ser	Ser	Ser	Pro
		100						105					110		
Thr	Ser	Ser	Leu	Thr	Gln	Pro	Ile	Glu	Met	Pro	Thr	Leu	Ser	Ser	Ser
		115				120						125			
Pro	Thr	Glu	Glu	Arg	Pro	Thr	Val	Gly	Pro	Gly	Gln	Gln	Asp	Asn	Pro
		130				135					140				
Leu	Leu	Lys	Thr	Phe	Ser	Asn	Val	Phe	Gly	Arg	His	Ser	Gly	Gly	Phe
145					150					155					160
Leu	Ser	Ser	Pro	Ala	Asp	Phe	Ser	Gln	Glu	Asn	Lys	Ala	Pro	Phe	Glu
			165						170					175	
Ala	Val	Lys	Arg	Phe	Ser	Leu	Asp	Glu	Arg	Ser	Leu	Ala	Cys	Arg	Gln

180										185										190																																			
Asp	Ser	Asp	Ser	Ser	Thr	Asn	Ser	Asp	Leu	Ser	Asp	Leu	Ser	Asp	Ser	Ser	Asp	Ser	Ser	Asp	Ser	Asp	Ser	Ser	Thr	Asn	Ser	Asp	Leu	Ser	Asp	Leu	Ser	Asp	Ser	Ser	Asp	Ser	Asp	Ser	Ser	Thr	Asn	Ser	Asp	Leu	Ser	Asp	Leu	Ser	Asp	Ser	Ser		
195										200										205																																			
Glu	Glu	Gln	Leu	Gln	Ala	Lys	Thr	Gly	Leu	Lys	Gly	Ile	Pro	Glu	His					Glu	Gln	Ala	Lys	Thr	Gly	Leu	Lys	Gly	Ile	Pro	Glu	His						Glu	Gln	Ala	Lys	Thr	Gly	Leu	Lys	Gly	Ile	Pro	Glu	His					
210										215										220																																			
Leu	Met	Gly	Lys	Leu	Gly	Pro	Asn	Gly	Glu	Arg	Ser	Ala	Glu	Leu	Leu					Leu	Met	Gly	Lys	Leu	Gly	Pro	Asn	Gly	Glu	Arg	Ser	Ala	Glu	Leu	Leu			Leu	Met	Gly	Lys	Leu	Gly	Pro	Asn	Gly	Glu	Arg	Ser	Ala	Glu	Leu	Leu		
225										230										235																																			
Leu	Gly	Lys	Ser	Lys	Gly	Lys	Gln	Ala	Pro	Lys	Gly	Arg	Pro	Arg	Thr					Leu	Gly	Lys	Ser	Lys	Gly	Lys	Gln	Ala	Pro	Lys	Gly	Arg	Pro	Arg	Thr			Leu	Gly	Lys	Ser	Lys	Gly	Lys	Gln	Ala	Pro	Lys	Gly	Arg	Pro	Arg	Thr		
245										250										255																																			
Ala	Pro	Leu	Lys	Val	Gly	Gln	Ser	Val	Leu	Lys	Asp	Val	Ser	Lys	Val					Ala	Pro	Leu	Lys	Val	Gly	Gln	Ser	Val	Leu	Lys	Asp	Val	Ser	Lys	Val			Ala	Pro	Leu	Lys	Val	Gly	Gln	Ser	Val	Leu	Lys	Asp	Val	Ser	Lys	Val		
260										265										270																																			
Lys	Lys	Leu	Lys	Gln	Ser	Gly	Glu	Pro	Phe	Leu	Gln	Asp	Gly	Ser	Cys					Lys	Lys	Leu	Lys	Gln	Ser	Gly	Glu	Pro	Phe	Leu	Gln	Asp	Gly	Ser	Cys			Lys	Lys	Leu	Lys	Gln	Ser	Gly	Glu	Pro	Phe	Leu	Gln	Asp	Gly	Ser	Cys		
275										280										285																																			
Ile	Asn	Val	Ala	Pro	His	Leu	His	Lys	Cys	Arg	Glu	Cys	Arg	Leu	Glu					Ile	Asn	Val	Ala	Pro	His	Leu	His	Lys	Cys	Arg	Glu	Cys	Arg	Leu	Glu			Ile	Asn	Val	Ala	Pro	His	Leu	His	Lys	Cys	Arg	Glu	Cys	Arg	Leu	Glu		
290										295										300																																			
Arg	Tyr	Arg	Lys	Phe	Lys	Glu	Gln	Glu	Gln	Asp	Asp	Ser	Thr	Val	Ala					Arg	Tyr	Arg	Lys	Phe	Lys	Glu	Gln	Glu	Gln	Asp	Asp	Ser	Thr	Val	Ala			Arg	Tyr	Arg	Lys	Phe	Lys	Glu	Gln	Glu	Gln	Asp	Asp	Ser	Thr	Val	Ala		
305										310										315																																			
Cys	Arg	Phe	Phe	His	Phe	Arg	Arg	Leu	Ile	Phe	Thr	Arg	Lys	Gly	Val					Cys	Arg	Phe	Phe	His	Phe	Arg	Arg	Leu	Ile	Phe	Thr	Arg	Lys	Gly	Val			Cys	Arg	Phe	Phe	His	Phe	Arg	Arg	Leu	Ile	Phe	Thr	Arg	Lys	Gly	Val		
325										330										335																																			
Leu	Arg	Val	Glu	Gly	Phe	Leu	Ser	Pro	Gln	Gln	Ser	Asp	Pro	Asp	Ala					Leu	Arg	Val	Glu	Gly	Phe	Leu	Ser	Pro	Gln	Gln	Ser	Asp	Pro	Asp	Ala			Leu	Arg	Val	Glu	Gly	Phe	Leu	Ser	Pro	Gln	Gln	Ser	Asp	Pro	Asp	Ala		
340										345										350																																			
Met	Asn	Leu	Trp	Ile	Pro	Ser	Ser	Ser	Leu	Ala	Glu	Gly	Ile	Asp	Leu					Met	Asn	Leu	Trp	Ile	Pro	Ser	Ser	Ser	Leu	Ala	Glu	Gly	Ile	Asp	Leu			Met	Asn	Leu	Trp	Ile	Pro	Ser	Ser	Ser	Leu	Ala	Glu	Gly	Ile	Asp	Leu		
355										360										365																																			
Glu	Thr	Ser	Lys	Tyr	Ile	Leu	Ala	Asn	Val	Gly	Asp	Gln	Phe	Cys	Gln					Glu	Thr	Ser	Lys	Tyr	Ile	Leu	Ala	Asn	Val	Gly	Asp	Gln	Phe	Cys	Gln			Glu	Thr	Ser	Lys	Tyr	Ile	Leu	Ala	Asn	Val	Gly	Asp	Gln	Phe	Cys	Gln		
370										375										380																																			
Leu	Val	Met	Ser	Glu	Lys	Glu	Ala	Met	Met	Met	Val	Glu	Pro	His	Gln					Leu	Val	Met	Ser	Glu	Lys	Glu	Ala	Met	Met	Met	Val	Glu	Pro	His	Gln			Leu	Val	Met	Ser	Glu	Lys	Glu	Ala	Met	Met	Met	Val	Glu	Pro	His	Gln		
385										390										395																																			
Lys	Val	Ala	Trp	Lys	Arg	Ala	Val	Arg	Gly	Val	Arg	Glu	Met	Cys	Asp					Lys	Val	Ala	Trp	Lys	Arg	Ala	Val	Arg	Gly	Val	Arg	Glu	Met	Cys	Asp			Lys	Val	Ala	Trp	Lys	Arg	Ala	Val	Arg	Gly	Val	Arg	Glu	Met	Cys	Asp		
405										410										415																																			
Val	Cys	Glu	Thr	Leu	Phe	Asn	Ile	His	Trp	Val	Cys	Arg	Lys	Cys						Val	Cys	Glu	Thr	Leu	Phe	Asn	Ile	His	Trp	Val	Cys	Arg	Lys	Cys				Val	Cys	Glu	Thr	Leu	Phe	Asn	Ile	His	Trp	Val	Cys	Arg	Lys	Cys			
420										425										430																																			
Gly	Phe	Gly	Val	Cys	Leu	Asp	Cys	Tyr	Arg	Leu	Arg	Lys	Ser	Arg	Pro					Gly	Phe	Gly	Val	Cys	Leu	Asp	Cys	Tyr	Arg	Leu	Arg	Lys	Ser	Arg	Pro			Gly	Phe	Gly	Val	Cys	Leu	Asp	Cys	Tyr	Arg	Leu	Arg	Lys	Ser	Arg	Pro		
435										440										445																																			
Arg	Ser	Glu	Thr	Glu	Glu	Met	Gly	Asp	Glu	Glu	Val	Phe	Ser	Trp	Leu					Arg	Ser	Glu	Thr	Glu	Glu	Met	Gly	Asp	Glu	Glu	Val	Phe	Ser	Trp	Leu			Arg	Ser	Glu	Thr	Glu	Glu	Met	Gly	Asp	Glu	Glu	Val	Phe	Ser	Trp	Leu		
450										455										460																																			
Lys	Cys	Ala	Lys	Gly	Gln	Ser	His	Glu	Pro	Glu	Asn	Leu	Met	Pro	Thr					Lys	Cys	Ala	Lys	Gly	Gln	Ser	His	Glu	Pro	Glu	Asn	Leu	Met	Pro	Thr			Lys	Cys	Ala	Lys	Gly	Gln	Ser	His	Glu	Pro	Glu	Asn	Leu	Met	Pro	Thr		
465										470										475																																			
Gln	Ile	Ile	Pro	Gly	Thr	Ala	Leu	Tyr	Asn	Ile	Gly	Asp	Met	Val	His					Gln	Ile	Ile	Pro	Gly	Thr	Ala	Leu	Tyr	Asn	Ile	Gly	Asp	Met	Val	His			Gln	Ile	Ile	Pro	Gly	Thr	Ala	Leu	Tyr	Asn	Ile	Gly	Asp	Met	Val	His		
485										490										495																																			
Ala	Ala	Arg	Gly	Lys	Trp	Gly	Ile	Lys	Ala	Asn	Cys	Pro	Cys	Ile	Ser					Ala	Ala	Arg	Gly	Lys	Trp	Gly	Ile	Lys	Ala	Asn	Cys	Pro	Cys	Ile	Ser			Ala	Ala	Arg	Gly	Lys	Trp	Gly	Ile	Lys	Ala	Asn	Cys	Pro	Cys	Ile	Ser		
500										505										510																																			
Arg	Gln	Asn	Lys	Ser	Val	Leu	Arg	Pro	Ala	Val	Thr	Asn	Gly	Met	Ser					Arg	Gln	Asn	Lys	Ser	Val	Leu	Arg	Pro	Ala	Val	Thr	Asn	Gly	Met	Ser			Arg	Gln	Asn	Lys	Ser	Val	Leu	Arg	Pro	Ala	Val	Thr	Asn	Gly	Met	Ser		
515										520										525																																			
Gln	Leu	Pro	Ser	Ile	Asn	Pro	Ser	Ala	Ser	Ser	Gly	Asn	Glu	Thr	Thr					Gln	Leu	Pro	Ser	Ile	Asn	Pro	Ser	Ala	Ser	Ser	Gly	Asn	Glu	Thr	Thr			Gln	Leu	Pro	Ser	Ile	Asn	Pro	Ser	Ala	Ser	Ser	Gly	Asn	Glu	Thr	Thr		
530										535										540																																			
Phe	Ser	Gly	Gly	Gly	Gly	Pro	Ala	Pro	Val	Thr	Thr	Pro	Glu	Pro	Asp					Phe	Ser	Gly	Gly	Gly	Gly	Pro	Ala	Pro	Val	Thr	Thr	Pro	Glu	Pro	Asp			Phe	Ser	Gly	Gly	Gly	Gly	Pro	Ala	Pro	Val	Thr	Thr	Pro	Glu	Pro	Asp		
545										550										555																																			
His	Val	Pro	Lys	Ala	Asp	Ser	Thr	Asp	Ile	Arg	Ser	Glu	Glu	Pro	Leu					His	Val	Pro	Lys	Ala	Asp	Ser	Thr	Asp	Ile	Arg	Ser	Glu	Glu	Pro	Leu			His	Val	Pro	Lys	Ala	Asp	Ser	Thr	Asp	Ile	Arg	Ser	Glu	Glu	Pro	Leu		
565										570										575																																			
Lys	Thr	Asp	Ser	Ser	Ala	Ser	Asn	Ser	Asn	Ser	Glu	Leu	Lys	Ala	Ile					Lys	Thr	Asp	Ser	Ser	Ala	Ser	Asn	Ser	Asn	Ser	Glu	Leu	Lys	Ala	Ile			Lys	Thr	Asp	Ser	Ser	Ala	Ser	Asn	Ser	Asn	Ser	Glu	Leu	Lys	Ala	Ile		
580										585										590																																			
Arg	Pro	Pro	Cys	Pro	Asp	Thr	Ala	Pro	Pro	Ser	Ser	Ala	Leu	His	Trp					Arg	Pro	Pro	Cys	Pro	Asp	Thr	Ala	Pro	Pro	Ser	Ser	Ala	Leu	His	Trp			Arg	Pro	Pro	Cys	Pro	Asp	Thr	Ala	Pro	Pro	Ser	Ser	Ala	Leu	His	Trp		
595										600										605																																			
Leu	Ala	Asp	Leu	Ala	Thr	Gln	Lys	Ala	Lys	Glu	Glu	Thr	Lys	Glu	Ala					Leu	Ala	Asp	Leu	Ala	Thr	Gln	Lys	Ala	Lys	Glu	Glu	Thr	Lys	Glu	Ala			Leu	Ala	Asp	Leu	Ala	Thr	Gln	Lys	Ala	Lys	Glu	Glu	Thr	Lys	Glu	Ala		

610		615		620
Gly Ser Leu Arg Ser Val Leu Asn Lys Glu Ser His Ser Pro Phe Gly				
625		630		635
Leu Asp Ser Phe Asn Ser Thr Ala Lys Val Ser Pro Leu Thr Pro Lys				640
	645		650	655
Leu Phe Asn Ser Leu Leu Leu Gly Pro Thr Ala Ser Asn Asn Lys Thr				
	660		665	670
Glu Gly Ser Ser Leu Arg Asp Leu Leu His Ser Gly Pro Gly Lys Leu				
	675		680	685
Pro Gln Thr Pro Leu Asp Thr Gly Ile Pro Phe Pro Pro Val Phe Ser				
	690		695	700
Thr Ser Ser Ala Gly Val Lys Ser Lys Ala Ser Leu Pro Asn Phe Leu				
705		710		715
Asp His Ile Ile Ala Ser Val Val Glu Asn Lys Lys Thr Ser Asp Ala				
	725		730	735
Ser Lys Arg Ala Cys Asn Leu Thr Asp Thr Gln Lys Glu Val Lys Glu				
	740		745	750
Met Val Met Gly Leu Asn Val Leu Asp Pro His Thr Ser His Ser Trp				
	755		760	765
Leu Cys Asp Gly Arg Leu Leu Cys Leu His Asp Pro Ser Asn Lys Asn				
	770		775	780
Asn Trp Lys Ile Phe Arg Glu Cys Trp Lys Gln Gly Gln Pro Val Leu				
785		790		795
Val Ser Gly Val His Lys Lys Leu Lys Ser Glu Leu Trp Lys Pro Glu				
	805		810	815
Ala Phe Ser Gln Glu Phe Gly Asp Gln Asp Val Asp Leu Val Asn Cys				
	820		825	830
Arg Asn Cys Ala Ile Ile Ser Asp Val Lys Val Arg Asp Phe Trp Asp				
	835		840	845
Gly Phe Glu Ile Ile Cys Lys Arg Leu Arg Ser Glu Asp Gly Gln Pro				
	850		855	860
Met Val Leu Lys Leu Lys Asp Trp Pro Pro Gly Glu Asp Phe Arg Asp				
865		870		875
Met Met Pro Thr Arg Phe Glu Asp Leu Met Glu Asn Leu Pro Leu Pro				
	885		890	895
Glu Tyr Thr Lys Arg Asp Gly Arg Leu Asn Leu Ala Ser Arg Leu Pro				
	900		905	910
Ser Tyr Phe Val Arg Pro Asp Leu Gly Pro Lys Met Tyr Asn Ala Tyr				
	915		920	925
Gly Leu Ile Thr Ala Glu Asp Arg Arg Val Gly Thr Thr Asn Leu His				
	930		935	940
Leu Asp Val Ser Asp Ala Val Asn Val Met Val Tyr Val Gly Ile Pro				
945		950		955
Ile Gly Glu Gly Ala His Asp Glu Glu Val Leu Lys Thr Ile Asp Glu				
	965		970	975
Gly Asp Ala Asp Glu Val Thr Lys Gln Arg Ile His Asp Gly Lys Glu				
	980		985	990
Lys Pro Gly Ala Leu Trp His Ile Tyr Ala Ala Lys Asp Ala Glu Lys				
	995		1000	1005
Ile Arg Glu Leu Leu Arg Lys Val Gly Glu Glu Gln Gly Gln Glu Asn				
	1010		1015	1020
Pro Pro Asp His Asp Pro Ile His Asp Gln Ser Trp Tyr Leu Asp Gln				
1025		1030		1035
Thr Leu Arg Lys Arg Leu Tyr Glu Glu Tyr Gly Val Gln Gly Trp Ala				1040

	1045		1050		1055
Ile Val Gln Phe	Leu Gly Asp Ala	Val Phe Ile Pro	Ala Gly Ala Pro		
	1060		1065		1070
His Gln Val His	Asn Leu Tyr Ser	Cys Ile Lys Val	Ala Glu Asp Phe		
	1075		1080		1085
Val Ser Pro Glu	His Val Lys His	Cys Phe Arg Leu	Thr Gln Glu Phe		
	1090		1095		1100
Arg His Leu Ser	Asn Thr His Thr	Asn His Glu Asp	Lys Leu Gln Val		
	1105		1110		1115
Lys Asn Ile Ile	Tyr His Ala Val	Lys Asp Ala Val	Gly Thr Leu Lys		
	1125		1130		1135
Ala His Glu Ser	Lys Leu Ala Arg	Ser			
	1140		1145		

&lt;210&gt; 4595

&lt;211&gt; 935

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4595

```

ggttaccaat ctgaagtggg agtggccgcc cttttttttt tttttttttt ttttttttga
60
gtcctctgag aatttattac tacggatcac agcagcaacg ggcgggaagg gcggcgccag
120
actcatttgc cccgcaggta gatcttgggg gtctgccagc cttcgggggc ttccttttagc
180
cccgccttca gccagatgcg cctcaggtct ttctcgaact tgatctgctt gcgtctcagg
240
cgtccctcct ggaccttctt ccgcaggaac cgcgtcttct tcaccagctt ccggtacttg
300
tggtgggttca tcttccgccg gcggatcttc agcacgtttt tgactgaat ttgaggcgca
360
tccgcgacgc cttcatcccc ctgctcgggc ccttccccta tctggctggg cggacactgg
420
taggattgcy gtggagccac agtccttgcg gtcccggat ccagtctggg caggaagcag
480
cgggccgtga gccagctctc cagggggctg acggacatct tcctggggac cagcatctcc
540
tccagctcca gctggggccc cttgcgaggg agagaggccg ccctacctgg gccggccggc
600
gatngtgctg taaagggggc cgcagacctg gctgcccagc actccagaga cggccaaggc
660
gggtggccgc ctgcccgaag aacggcctca acagctggga agtcaggcgc cccaggagca
720
tggtctgtgg gcggcgccac aggtcccagg ggagcgaaag gtcccagaac ggggaggccg
780
gccccctccc cgggttcaac cccgcgcgaa tcgcgttgcc tggcgcccgg accctctcgg
840
ctggaccccc ggcccgccnn tgccgcagcg cccggcgccc tcaggcctcc cgctgaccct
900
tcccaagccc gacctcgacg cggctcaaat tgacc
935

```

&lt;210&gt; 4596



<211> 169  
 <212> PRT  
 <213> Homo sapiens

<400> 4596

```

Asp Cys Gly Gly Ala Thr Val Pro Ala Val Pro Val Ser Ser Leu Gly
 1           5           10           15
Arg Lys Gln Arg Ala Val Ser Gln Leu Ser Arg Gly Leu Thr Asp Ile
          20           25           30
Phe Leu Gly Thr Ser Ile Ser Ser Ser Ser Trp Ala Pro Leu Arg
          35           40           45
Gly Arg Glu Ala Ala Leu Pro Gly Pro Ala Gly Asp Xaa Ala Val Lys
          50           55           60
Gly Pro Ala Asp Pro Ala Ala Gln His Ser Arg Asp Gly Gln Gly Gly
65           70           75           80
Trp Pro Pro Ala Gln Gly Thr Ala Ser Thr Ala Gly Lys Ser Gly Ala
          85           90           95
Pro Gly Ala Trp Ser Val Gly Gly Ala Thr Gly Pro Arg Gly Ala Lys
          100          105          110
Gly Pro Arg Thr Gly Arg Pro Ala Pro Ser Pro Gly Ser Pro Pro Arg
          115          120          125
Glu Ser Arg Cys Leu Ala Pro Gly Pro Ser Arg Leu Asp Pro Gly Pro
          130          135          140
Ala Xaa Ala Ala Ala Pro Gly Ala Leu Arg Pro Pro Ala Asp Pro Ser
145          150          155          160
Gln Ala Arg Pro Arg Arg Gly Ser Asn
          165

```

<210> 4597  
 <211> 515  
 <212> DNA  
 <213> Homo sapiens

<400> 4597

```

gtgcacatcc tgacagcaca ctctgtcctc tgcacgacaa ccttgaggga cggggcctcg
60
ctgcaggggc ggtgcagaca gagctgcagg acctgcttcc ctgcaggcaa tgctctctcg
120
gggacactca tgctcagtga ctgatgggat ggggggtaca aagtccagc cactgatctc
180
tgaggaggcca ttccagctca caactcctgg gccctgggga gtcggccgtg ggacctgcct
240
cacagctcag ctctctctct cggccccatt ctgcctcctc ccggcccttt ccagggcagt
300
aagcccaagg aactccttaa gaaacatcct cactctgaac tccactgcag agccttcttc
360
ctgggaaagc agggagcgcc ccttgcaatc acgtaatgtt tactcatecg cctccttctc
420
ggagcacctt gacggaggat gtcccccact agtgetacaa agcctagcac gtagaataag
480
ctcaacatgg ttggttgacc agagtctgag ggaac
515

```

<210> 4598

<211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 4598  
 Met Ser Ser Trp Gly His Ser Cys Ser Val Thr Asp Gly Met Gly Gly  
 1 5 10 15  
 Thr Lys Ser Gln Pro Arg Asp Ser Gly Arg Pro Phe Gln Leu Thr Thr  
 20 25 30  
 Pro Gly Pro Trp Gly Val Gly Arg Gly Thr Cys Leu Thr Ala Gln Leu  
 35 40 45  
 Leu Leu Ser Ala Pro Phe Cys Leu Leu Pro Ala Leu Ser Gln Ala Val  
 50 55 60  
 Ser Pro Arg Asn Ser Leu Arg Asn Ile Leu Thr Leu Asn Ser Thr Ala  
 65 70 75 80  
 Glu Pro Ser Ser Trp Glu Ser Arg Glu Arg Pro Leu Gln Ser Arg Asn  
 85 90 95  
 Val Tyr Ser Ser Ala Ser Phe Ser Glu His Leu Asp Gly Gly Cys Ser  
 100 105 110  
 Pro Leu Val Leu Gln Ser Leu Ala Arg Arg Ile Ser Ser Thr Trp Leu  
 115 120 125  
 Val Asp Gln Ser Leu Arg Glu  
 130 135

<210> 4599  
 <211> 2314  
 <212> DNA  
 <213> Homo sapiens

<400> 4599  
 ngcgcgcctc cgccgcggcc cccacctctg cctccttcta ctcgggcgcc ccggcgggccg  
 60  
 ccacctctcc ccagccccgg agaggctgcg gagccgcagc cgcccagacc gcgcagcgcg  
 120  
 ggaggcaggt tccgcacgaa ataaatcaga atgagttatg cagaaaaacc cgatgaaatc  
 180  
 acgaaagatg agtggatgga aaagctcaat aacttgcatg tccagagagc agacatgaac  
 240  
 cgcctcatca tgaactacct ggtcacagag ggctttaagg aagcagcgga gaagtttcga  
 300  
 atggaatctg gaatcgaacc tagtgtggat ctggaaacac ttgatgaacg aatcaagatc  
 360  
 cgggagatga tactgaaagg tcagattcag gaggccatcg ccttgatcaa cagcctccac  
 420  
 ccagagctct tggacacaaa ccggtatctt tacttccatt tgcagcaaca gcatttgatc  
 480  
 gagctgatcc gccagcggga gacagaggcg gcgctggagt ttgcacagac tcagctggcg  
 540  
 gagcagggcg aggagagccg agagtgcctc acagagatgg agcgtaccct ggactgctg  
 600  
 gcctttgaca gtcccagga gtcgcccttc ggagacctcc tccacaccat gcagaggcag  
 660  
 aagggtgtgga gtgaagttaa ccaagctgtg ctagattatg aaaatcgcg gtcaacaccc  
 720

aaactggcaa aattactgaa actactactt tgggctcaga acgagctgga ccagaagaaa  
780  
gtaaaatatc ccaaaatgac agacctcage aagggtgtga ttgaggagcc caagtagcgc  
840  
ctgcgcttgc gtggtggatc caacaccagc cctgcgtcgt gggacttgcc tcagatcagc  
900  
ctgcgactgc aagattctta ctgcagtaga gaactctttt tctcccttgt actttttttt  
960  
gacctggcat ctttttatag ggaaaaatgg cctttgtagg cagtggaaaa cttgcaagga  
1020  
aagctgccgt ctctttggca gtctgatgca gagcctgcac tctggcactc gctgaagaat  
1080  
ctggaaggtt gcggtttgct ctccagtggt tcgggggcct ctggctgctg aaggattcgg  
1140  
tctaccacgg agggctgtgc tgttaggctg catccactc aaaatacagg aaaagcacga  
1200  
atcatgattc tgctttctgt tagcttaggc agacattggg ccttcaccta caagtttttc  
1260  
cttaccctg tggtttttgt gttttttttt ttttctttt ccataggaaa gaatatataa  
1320  
atttgtaaat cctaattcaa agatggctca tgtgtgaggg cattgagttt gatttgtttt  
1380  
ccctttggtc tgggttgtgt ggcttttggg ggatgcgtgt gagggggcta tgtgtttttt  
1440  
aattttttta atatatattt tgggtgctgtg tgtggttaaga gacttgttcc tagtggatca  
1500  
atgaaccatc tcttctgggc agttttgttg aaaataaagg tttctctttg atttcaagaa  
1560  
tgacccaaat ggctctaaa agatgttaat catctcaaat gaccttttgt ctttggggcg  
1620  
ttcttcccc tgtgatagcg gcagtggctt tttctggtac ctgcagctgg aaaggccact  
1680  
tggccctgtg ctgagtgagc ggccctccatt agagcgaggc agcccttggc cgggtggggac  
1740  
gcagagcccc agcaggtggt gcacgactgt tggcggaagg aacgcgtgtt catcctcagt  
1800  
gatctgccct ccagcatctc ggcagcatct catcctccat cgtcagccgg ctctgccgat  
1860  
gtcctgcttc tgttcaactca cagaactgtc ccctgctccg tgggtgggcag gagggaaagt  
1920  
gtgcagggct gcgtgcattg cctgcgagtc gggacagtgt atgggcacat ggccttgtg  
1980  
ctctgggcac agatgtgttt ggattcattg cagcggacca ccgggcactg ttgacccac  
2040  
tgagcagtgc taagtgttgg tttagtggat gtctgtggaa ttgctgatcc atccaagggc  
2100  
gtcctttgga gccagtggag cctgccggcg catctgaggg gcagaatgct gctagcactt  
2160  
gaatctggga tctcgcctta ttctcaagta gcaaggcatc tcgacaagca tgggtctaggt  
2220  
ctggtggcca gcttgccagt acctgagccg gtcgggtcat ctgcctctga gggaccgtcc  
2280  
tcaccgagct cctgcatccc ttgagtgttg atca  
2314

<210> 4600  
 <211> 228  
 <212> PRT  
 <213> Homo sapiens

<400> 4600  
 Met Ser Tyr Ala Glu Lys Pro Asp Glu Ile Thr Lys Asp Glu Trp Met  
 1 5 10 15  
 Glu Lys Leu Asn Asn Leu His Val Gln Arg Ala Asp Met Asn Arg Leu  
 20 25 30  
 Ile Met Asn Tyr Leu Val Thr Glu Gly Phe Lys Glu Ala Ala Glu Lys  
 35 40 45  
 Phe Arg Met Glu Ser Gly Ile Glu Pro Ser Val Asp Leu Glu Thr Leu  
 50 55 60  
 Asp Glu Arg Ile Lys Ile Arg Glu Met Ile Leu Lys Gly Gln Ile Gln  
 65 70 75 80  
 Glu Ala Ile Ala Leu Ile Asn Ser Leu His Pro Glu Leu Leu Asp Thr  
 85 90 95  
 Asn Arg Tyr Leu Tyr Phe His Leu Gln Gln Gln His Leu Ile Glu Leu  
 100 105 110  
 Ile Arg Gln Arg Glu Thr Glu Ala Ala Leu Glu Phe Ala Gln Thr Gln  
 115 120 125  
 Leu Ala Glu Gln Gly Glu Glu Ser Arg Glu Cys Leu Thr Glu Met Glu  
 130 135 140  
 Arg Thr Leu Ala Leu Leu Ala Phe Asp Ser Pro Glu Glu Ser Pro Phe  
 145 150 155 160  
 Gly Asp Leu Leu His Thr Met Gln Arg Gln Lys Val Trp Ser Glu Val  
 165 170 175  
 Asn Gln Ala Val Leu Asp Tyr Glu Asn Arg Glu Ser Thr Pro Lys Leu  
 180 185 190  
 Ala Lys Leu Leu Lys Leu Leu Leu Trp Ala Gln Asn Glu Leu Asp Gln  
 195 200 205  
 Lys Lys Val Lys Tyr Pro Lys Met Thr Asp Leu Ser Lys Gly Val Ile  
 210 215 220  
 Glu Glu Pro Lys  
 225

<210> 4601  
 <211> 916  
 <212> DNA  
 <213> Homo sapiens

<400> 4601  
 aagcttaaca aacaacagtt gcagttactg aaagaacggt tccaggcctt cctcaatggg  
 60  
 gaaacccaaa ttgtagctga cgaagcattt tgcaacgcag ttcggagtta ttatgaggtt  
 120  
 tttctaaaga gtgaccgagt ggccagaatg gtacagagtg gaggggtgttc tgctaatac  
 180  
 ttcagagaag tattaagaa aaacatagaa aaacgtgtgc ggagtttgcc agaaatagat  
 240  
 ggcttgagca aagagacagt gttgagctca tggatagcca aatatgatgc catttacaga  
 300

ggtgaagagg acttgtgcaa acagccaaat agaatggccc taagtgcagt gtctgaactt  
 360  
 attctgagca aggaacaact ctatgaaatg tttcagcaga ttctgggtat taaaaaacta  
 420  
 gaacaccagc tcctttataa tgcattgtcag ctggataacg cagatgaaca agcagcccag  
 480  
 atcagaaggg aacttgatgg cgggctgcaa ttggcagata aaatggcaaa ggaaagaaaa  
 540  
 ttccccaat ttatagcaaa agatatggag aatatgtata tagaagagtt gcggtcttca  
 600  
 gtgaatttgc taatggccaa tttggaaagt cttccagttt cgaaagggtgg tccggaattt  
 660  
 aaattacaaa aattaaaacg ttcacagaac tctgcatttt tggacatagg agatgagaat  
 720  
 gagattcagc tgtcaaagtc cgacgtggta ctgtcattca ccttagagat tgtcataatg  
 780  
 gaagtgcaag gcctgaagtc agttgctccc aatcgaattg tttactgtac aatggaagtg  
 840  
 gaaggagaaa aacttcagac agaccaggcc gaagcctcaa ggccacaatg gggggactca  
 900  
 ggggaatttc accccc  
 916

&lt;210&gt; 4602

&lt;211&gt; 305

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4602

Lys	Leu	Asn	Lys	Gln	Gln	Leu	Gln	Leu	Leu	Lys	Glu	Arg	Phe	Gln	Ala
1				5					10					15	
Phe	Leu	Asn	Gly	Glu	Thr	Gln	Ile	Val	Ala	Asp	Glu	Ala	Phe	Cys	Asn
		20						25					30		
Ala	Val	Arg	Ser	Tyr	Tyr	Glu	Val	Phe	Leu	Lys	Ser	Asp	Arg	Val	Ala
		35					40					45			
Arg	Met	Val	Gln	Ser	Gly	Gly	Cys	Ser	Ala	Asn	Asp	Phe	Arg	Glu	Val
	50					55					60				
Phe	Lys	Lys	Asn	Ile	Glu	Lys	Arg	Val	Arg	Ser	Leu	Pro	Glu	Ile	Asp
65					70					75				80	
Gly	Leu	Ser	Lys	Glu	Thr	Val	Leu	Ser	Ser	Trp	Ile	Ala	Lys	Tyr	Asp
			85						90					95	
Ala	Ile	Tyr	Arg	Gly	Glu	Glu	Asp	Leu	Cys	Lys	Gln	Pro	Asn	Arg	Met
			100					105						110	
Ala	Leu	Ser	Ala	Val	Ser	Glu	Leu	Ile	Leu	Ser	Lys	Glu	Gln	Leu	Tyr
		115					120					125			
Glu	Met	Phe	Gln	Gln	Ile	Leu	Gly	Ile	Lys	Lys	Leu	Glu	His	Gln	Leu
	130					135					140				
Leu	Tyr	Asn	Ala	Cys	Gln	Leu	Asp	Asn	Ala	Asp	Glu	Gln	Ala	Ala	Gln
145					150					155				160	
Ile	Arg	Arg	Glu	Leu	Asp	Gly	Arg	Leu	Gln	Leu	Ala	Asp	Lys	Met	Ala
			165						170					175	
Lys	Glu	Arg	Lys	Phe	Pro	Lys	Phe	Ile	Ala	Lys	Asp	Met	Glu	Asn	Met
			180					185					190		
Tyr	Ile	Glu	Glu	Leu	Arg	Ser	Ser	Val	Asn	Leu	Leu	Met	Ala	Asn	Leu

```

<400> 4603
gcagagcggg ccggccaaga gcccctcaag accatccttg atgccaggga cctggattgc
60
tactttaccc ccatgaagcc cgagagtctg gagaactcca ttctggattc actggagcca
120
cagagcctgg ccagcctgct gagtgagtca gagagtcccc aggaagctgg ccgcggggcac
180
ccctccttcc tgccccagca gaaggaatca tctgaggcca gtgagctcat cctctactct
240
ctggaggcag aagtgacagt cacagggaca gacagccagt attgcaggaa ggaggtggag
300
gccggggcctg gagaccagca gggcgactcc tacctcaggg tgtcctccga cagcccaaag
360
gaccagagcc cgcttgagga ctcggggggag tcagaggccg acctggagtg cagcttcgca
420
gccatccact ccccagctcc gcctcctgac cctgcccctc ggtttgccac gtcgctgccc
480
catttcccag gatgcgcagg tcccacagaa gatgagctgt ccctgcccga gggaccacgc
540
gtccccagca gtcctctacc ccagactccg gagcaggaga agttcctccg ccaccacttt
600
gagacactga ctgagtcccc ctgcagagct ctgggagacg tggaggcctc tgaagctgaa
660
gaccacttct tcaaccacg cctgagtatc tccacgcagt tcctctcaag cctccagaag
720
gcatccaggt tcaccatac cttccctccc cgggcaacct agtgacctgt gaagtctcca
780
gaggtcaagc tcatggaccg aggcggaagc cagcccagag caggtactgg ctacgcctcc
840
ccagacagga cccacgtcct cgctgcaggg aaggctgaag agaccctgga ggcttgccgc
900
ccaccacctc cctgccttac gagcctggcg tcctgtgtcc ctgcttctc cgtgctgccc
960

```

acagatagga atctcccaac gcccacatct gcacccaccc caggcctggc tcagggtgtc  
 1020  
 catgccccct ccacctgttc ctacatggag gccactgcca gctcccggtc caggatatca  
 1080  
 cgcagcatct ccctcgggtga cagtgagggc cctatcgtgg ccacactggc ccagcccctc  
 1140  
 cgtaggccat cgtccgttgg ggagctggcc tccttggggc aggagcttca ggccatcacc  
 1200  
 accgcgaaa caccagttt ggacagttag ggccaagagc ctgccctgcg ttcttggggc  
 1260  
 aaccacgagg cccggggcaa cctgagactg accctgtcaa gtgcctgtga tgggctcctg  
 1320  
 ctgccccccg tggataccca gcttggcgtc accgtccctg cagttagctt ccagcccct  
 1380  
 agccctgtgg aagagagcgc cctgaggctc cacggctctg cctttcgccc aagtctccca  
 1440  
 gtccttagt cccctggcct tcctgcccac cccagtaacc cccagcttcc agaggcccgg  
 1500  
 cctggcatcc ctggcgccac tgcctccctc ctggagccca cctccgggtc acttgggtctg  
 1560  
 ttccagggca gccctgcccg ctggagttag ccctgggtgc cggttgaagc cctgccccca  
 1620  
 tctccccttg agctgagcgg gtggggaaca tcttgcacag gctgcagacc accttccaag  
 1680  
 aagccctcga cctttaccgt gtgttgggtc ccagtggcca ggtggacacc gggcagcagc  
 1740  
 aggcacggac tgagctggtc tccaccttcc tgtggatcca cagccagctg gaggtgaat  
 1800  
 gcttgggtgg gactagtgtg gccccagccc aggtcttgcc cagcccagga cccccgtccc  
 1860  
 caccgacgct gtaccccctg gccagcccag acctgcaggc cctgctggaa cactactcgg  
 1920  
 agctgctggt gcaggccgtg cggaggaagg cacgggggca ctgagggcgc agcccctcca  
 1980  
 ccgcagccct gctgcttctg aggacttagg tattttaagc gaataaactg acagctttga  
 2040  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2090

&lt;210&gt; 4604

&lt;211&gt; 666

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4604

Ala	Glu	Arg	Ala	Gly	Gln	Glu	Pro	Leu	Lys	Thr	Ile	Leu	Asp	Ala	Gln
1				5					10					15	
Asp	Leu	Asp	Cys	Tyr	Phe	Thr	Pro	Met	Lys	Pro	Glu	Ser	Leu	Glu	Asn
			20					25					30		
Ser	Ile	Leu	Asp	Ser	Leu	Glu	Pro	Gln	Ser	Leu	Ala	Ser	Leu	Leu	Ser
		35					40					45			
Glu	Ser	Glu	Ser	Pro	Gln	Glu	Ala	Gly	Arg	Gly	His	Pro	Ser	Phe	Leu
	50				55				60						
Pro	Gln	Gln	Lys	Glu	Ser	Ser	Glu	Ala	Ser	Glu	Leu	Ile	Leu	Tyr	Ser

65					70					75				80	
Leu	Glu	Ala	Glu	Val	Thr	Val	Thr	Gly	Thr	Asp	Ser	Gln	Tyr	Cys	Arg
				85					90					95	
Lys	Glu	Val	Glu	Ala	Gly	Pro	Gly	Asp	Gln	Gln	Gly	Asp	Ser	Tyr	Leu
			100					105					110		
Arg	Val	Ser	Ser	Asp	Ser	Pro	Lys	Asp	Gln	Ser	Pro	Pro	Glu	Asp	Ser
		115					120					125			
Gly	Glu	Ser	Glu	Ala	Asp	Leu	Glu	Cys	Ser	Phe	Ala	Ala	Ile	His	Ser
	130					135					140				
Pro	Ala	Pro	Pro	Pro	Asp	Pro	Ala	Pro	Arg	Phe	Ala	Thr	Ser	Leu	Pro
145					150					155					160
His	Phe	Pro	Gly	Cys	Ala	Gly	Pro	Thr	Glu	Asp	Glu	Leu	Ser	Leu	Pro
			165						170					175	
Glu	Gly	Pro	Ser	Val	Pro	Ser	Ser	Ser	Leu	Pro	Gln	Thr	Pro	Glu	Gln
			180					185					190		
Glu	Lys	Phe	Leu	Arg	His	His	Phe	Glu	Thr	Leu	Thr	Glu	Ser	Pro	Cys
	195						200					205			
Arg	Ala	Leu	Gly	Asp	Val	Glu	Ala	Ser	Glu	Ala	Glu	Asp	His	Phe	Phe
	210					215					220				
Asn	Pro	Arg	Leu	Ser	Ile	Ser	Thr	Gln	Phe	Leu	Ser	Ser	Leu	Gln	Lys
225					230					235					240
Ala	Ser	Arg	Phe	Thr	His	Thr	Phe	Pro	Pro	Arg	Ala	Thr	Gln	Cys	Leu
			245					250					255		
Val	Lys	Ser	Pro	Glu	Val	Lys	Leu	Met	Asp	Arg	Gly	Gly	Ser	Gln	Pro
		260					265					270			
Arg	Ala	Gly	Thr	Gly	Tyr	Ala	Ser	Pro	Asp	Arg	Thr	His	Val	Leu	Ala
	275					280					285				
Ala	Gly	Lys	Ala	Glu	Glu	Thr	Leu	Glu	Ala	Trp	Arg	Pro	Pro	Pro	Pro
	290					295				300					
Cys	Leu	Thr	Ser	Leu	Ala	Ser	Cys	Val	Pro	Ala	Ser	Ser	Val	Leu	Pro
305					310					315					320
Thr	Asp	Arg	Asn	Leu	Pro	Thr	Pro	Thr	Ser	Ala	Pro	Thr	Pro	Gly	Leu
			325					330					335		
Ala	Gln	Gly	Val	His	Ala	Pro	Ser	Thr	Cys	Ser	Tyr	Met	Glu	Ala	Thr
		340					345					350			
Ala	Ser	Ser	Arg	Ala	Arg	Ile	Ser	Arg	Ser	Ile	Ser	Leu	Gly	Asp	Ser
	355					360					365				
Glu	Gly	Pro	Ile	Val	Ala	Thr	Leu	Ala	Gln	Pro	Leu	Arg	Arg	Pro	Ser
	370				375					380					
Ser	Val	Gly	Glu	Leu	Ala	Ser	Leu	Gly	Gln	Glu	Leu	Gln	Ala	Ile	Thr
385					390					395					400
Thr	Ala	Thr	Thr	Pro	Ser	Leu	Asp	Ser	Glu	Gly	Gln	Glu	Pro	Ala	Leu
			405					410					415		
Arg	Ser	Trp	Gly	Asn	His	Glu	Ala	Arg	Ala	Asn	Leu	Arg	Leu	Thr	Leu
		420					425					430			
Ser	Ser	Ala	Cys	Asp	Gly	Leu	Leu	Leu	Pro	Pro	Val	Asp	Thr	Gln	Pro
		435				440					445				
Gly	Val	Thr	Val	Pro	Ala	Val	Ser	Phe	Pro	Ala	Pro	Ser	Pro	Val	Glu
	450					455				460					
Glu	Ser	Ala	Leu	Arg	Leu	His	Gly	Ser	Ala	Phe	Arg	Pro	Ser	Leu	Pro
465					470					475					480
Ala	Pro	Glu	Ser	Pro	Gly	Leu	Pro	Ala	His	Pro	Ser	Asn	Pro	Gln	Leu
			485					490				495			
Pro	Glu	Ala	Arg	Pro	Gly	Ile	Pro	Gly	Gly	Thr	Ala	Ser	Leu	Leu	Glu



```
<210> 4605
<211> 2998
<212> DNA
<213> Homo sapiens
```

```

<400> 4605
nnacgcgtgg ctcgaaataa ggttggtgat gactacgtgg tgctcaaagt ggatgtgggtg
60
atgaaaccgg ccaagattga acacaaggag gagaacgacc acaaagtctt ctacgggggt
120
gacctgaaag tggactgtgt ggccaccggg cttcccaatc ccgagatctc ctggagcctc
180
ccagacggga gtctggtgaa ctcttcatg cagtcggatg acagcggtag acgcaccaag
240
cgctatgtcg tcttcaacaa tgggacactc tactttaacg aagtggggat gaggaggaa
300
ggagactaca cctgctttgc tgaaaatcag gtcgggaagg acgagatgag agtcagagtc
360
aaggtggtga cagcgcccg caccatccgg aacaagactt gcttggcggt tcaggtgcc
420
tatggagacg tggctactgt agcctgtgag gccaaaggag aacccatgcc caaggtgact
480
tggttggtccc caaccaacaa ggtgatcccc acctcctctg agaagtatca gatataccaa
540
gatggcactc tccttattca gaaagcccag cgttctgaca gcggcaacta cacctgcttg
600
gtcaggaaca gcgcgggaga ggataggaag acggtgtgga ttcacgtcaa cgtccagcca
660
cccaagatca acggtaaccc caaccccatc accactgtgc gggagatagc agccgggggc
720
agtcggaaac tgattgactg caaagctgaa ggcatcccca ccccgagggt gttatgggct
780

```

tttcccgagg gtgtggttct gccagctcca tactatggaa accggatcac tgtccatggc  
840  
aacggttccc tggacatcag gagtttgagg aagagcgact cgtccagct ggtatgcatg  
900  
gcacgcaacg agggagggga ggccaggttg atcctgcagc tcaactgtcct ggagcccatg  
960  
gagaaaccca tcttccacga cccgatcagc gagaagatca cggccatggc gggccacacc  
1020  
atcagcctca actgctctgc cgcggggacc ccgacacca gcctggtgtg ggtccttccc  
1080  
aatggcaccg atctgcagag tggacagcag ctgcagcgt tctaccacaa ggctgacggc  
1140  
atgctacaca ttagcggctc ctctcgggtg gacgctgggg cctaccgctg cgtggcccg  
1200  
aatgccgctg gccacacgga gaggctggtc tccctgaagg tgggactgaa gccagaagca  
1260  
aacaagcagt atcataacct ggtcagcatc atcaatggtg agaccctgaa gctcccctgc  
1320  
acccctcccg gggctgggca gggacgtttc tcttgagcgc tcccaatgg catgcatctg  
1380  
gagggccccc aaaccctggg acgcgtttct cttctggaca atggcaccct cacggttcgt  
1440  
gaggcctcgg tgtttgacag gggtagctat gtatgcagga tggagacgga gtacggccct  
1500  
tcggtcacca gcatccccgt gattgtgatc gcctatcctc cccggatcac cagcgagccc  
1560  
accccggtca tctacaccg gcccggaac accgtgaaac tgaactgcat ggctatgggg  
1620  
attcccaaag ctgacatcac gtgggagtta ccggataagt cgcacttgaa ggcaggggtt  
1680  
caggctcgtc tgtatggaaa cagatttctt cccccccagg gatcactgac catccagcat  
1740  
gccacacaga gagatgccgg cttctacaag tgcattggaa aaaacattct cggcagtgac  
1800  
tccaaaacaa cttacatcca cgtcttctga aatgtggatt ccagaatgat tgcttaggaa  
1860  
ctgacaacaa agcgggggtt gtaaggggag ccaggttggg gaataggagc tcttaataa  
1920  
tgtgtcacag tgcattggtg cctctggtgg gtttcaagtt gaggttgatc ttgatctaca  
1980  
attgttggga aaaggaagca atgcagacac gagaaggagg gtcagcctt gctgagacac  
2040  
tttcttttgt gtttacatca tgccaggggc ttcattcagg gtgtctgtgc tctgactgca  
2100  
atttttcttt ttttgcaaat gccactcgac tgccttcata agcgtccata ggatatctga  
2160  
ggaacattca tcaaaaataa gccatagaca tgaacaacac ctactaccc cattgaagac  
2220  
gcatcaccta gttaacctgc tgcagttttt acatgataga ctttgttcca gattgacaag  
2280  
tcatttttca gttatttctt ctgtcacttc aaaactccag cttgccaat aaggatttag  
2340  
aaccagagtg actgatatat atatataatt taattcagag ttacatacat acagctacca  
2400

ttttatatga aaaaagaaaa acatttcttc ctggaactca ctttttatat aatgttttat  
 2460  
 atatatTTTT tttcctttca aatcagacga tgagactaga aggagaaata ctttctgtct  
 2520  
 tattaaaatt aataaattat tggctctttac aagacttgga tacattacag cagacatgga  
 2580  
 aatataattt taaaaaattt ctctccaacc tccttcaaatt tcagtcacca ctgttatatt  
 2640  
 accttctcca ggaaccctcc agtggggaag gctgcatat tagatttcct tgtatgcaaa  
 2700  
 gtttttgttg aaagctgtgc tcagaggagg tgagaggaga ggaaggagaa aactgcatca  
 2760  
 taactttaca gaattgaatc tagagtcttc cccgaaaagc ccagaaactt ctctgcagta  
 2820  
 tctggcttgt ccatctgggc taaggtggct gcttcttccc cagccatgag tcagtttgtg  
 2880  
 cccatgaata atacacgacc tgttatttcc atgactgctt tactgtattt ttaaggtcaa  
 2940  
 tatactgtac atttgataat aaaataatat tctcccaaaa aaaaaaaaaa aaaaaaag  
 2998

&lt;210&gt; 4606

&lt;211&gt; 584

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4606

Ile	Glu	His	Lys	Glu	Glu	Asn	Asp	His	Lys	Val	Phe	Tyr	Gly	Gly	Asp
1				5					10					15	
Leu	Lys	Val	Asp	Cys	Val	Ala	Thr	Gly	Leu	Pro	Asn	Pro	Glu	Ile	Ser
			20					25					30		
Trp	Ser	Leu	Pro	Asp	Gly	Ser	Leu	Val	Asn	Ser	Phe	Met	Gln	Ser	Asp
		35					40				45				
Asp	Ser	Gly	Gly	Arg	Thr	Lys	Arg	Tyr	Val	Val	Phe	Asn	Asn	Gly	Thr
	50					55					60				
Leu	Tyr	Phe	Asn	Glu	Val	Gly	Met	Arg	Glu	Glu	Gly	Asp	Tyr	Thr	Cys
65				70					75					80	
Phe	Ala	Glu	Asn	Gln	Val	Gly	Lys	Asp	Glu	Met	Arg	Val	Arg	Val	Lys
			85					90					95		
Val	Val	Thr	Ala	Pro	Ala	Thr	Ile	Arg	Asn	Lys	Thr	Cys	Leu	Ala	Val
			100					105					110		
Gln	Val	Pro	Tyr	Gly	Asp	Val	Val	Thr	Val	Ala	Cys	Glu	Ala	Lys	Gly
		115					120					125			
Glu	Pro	Met	Pro	Lys	Val	Thr	Trp	Leu	Ser	Pro	Thr	Asn	Lys	Val	Ile
	130					135					140				
Pro	Thr	Ser	Ser	Glu	Lys	Tyr	Gln	Ile	Tyr	Gln	Asp	Gly	Thr	Leu	Leu
145				150					155					160	
Ile	Gln	Lys	Ala	Gln	Arg	Ser	Asp	Ser	Gly	Asn	Tyr	Thr	Cys	Leu	Val
			165					170					175		
Arg	Asn	Ser	Ala	Gly	Glu	Asp	Arg	Lys	Thr	Val	Trp	Ile	His	Val	Asn
		180					185						190		
Val	Gln	Pro	Pro	Lys	Ile	Asn	Gly	Asn	Pro	Asn	Pro	Ile	Thr	Thr	Val
		195				200						205			
Arg	Glu	Ile	Ala	Ala	Gly	Gly	Ser	Arg	Lys	Leu	Ile	Asp	Cys	Lys	Ala

```

      210                215                220
Glu Gly Ile Pro Thr Pro Arg Val Leu Trp Ala Phe Pro Glu Gly Val
225                230                235                240
Val Leu Pro Ala Pro Tyr Tyr Gly Asn Arg Ile Thr Val His Gly Asn
      245                250                255
Gly Ser Leu Asp Ile Arg Ser Leu Arg Lys Ser Asp Ser Val Gln Leu
      260                265                270
Val Cys Met Ala Arg Asn Glu Gly Gly Glu Ala Arg Leu Ile Leu Gln
      275                280                285
Leu Thr Val Leu Glu Pro Met Glu Lys Pro Ile Phe His Asp Pro Ile
      290                295                300
Ser Glu Lys Ile Thr Ala Met Ala Gly His Thr Ile Ser Leu Asn Cys
305                310                315                320
Ser Ala Ala Gly Thr Pro Thr Pro Ser Leu Val Trp Val Leu Pro Asn
      325                330                335
Gly Thr Asp Leu Gln Ser Gly Gln Gln Leu Gln Arg Phe Tyr His Lys
      340                345                350
Ala Asp Gly Met Leu His Ile Ser Gly Leu Ser Ser Val Asp Ala Gly
      355                360                365
Ala Tyr Arg Cys Val Ala Arg Asn Ala Ala Gly His Thr Glu Arg Leu
      370                375                380
Val Ser Leu Lys Val Gly Leu Lys Pro Glu Ala Asn Lys Gln Tyr His
385                390                395                400
Asn Leu Val Ser Ile Ile Asn Gly Glu Thr Leu Lys Leu Pro Cys Thr
      405                410                415
Pro Pro Gly Ala Gly Gln Gly Arg Phe Ser Trp Thr Leu Pro Asn Gly
      420                425                430
Met His Leu Glu Gly Pro Gln Thr Leu Gly Arg Val Ser Leu Leu Asp
      435                440                445
Asn Gly Thr Leu Thr Val Arg Glu Ala Ser Val Phe Asp Arg Gly Thr
      450                455                460
Tyr Val Cys Arg Met Glu Thr Glu Tyr Gly Pro Ser Val Thr Ser Ile
465                470                475                480
Pro Val Ile Val Ile Ala Tyr Pro Pro Arg Ile Thr Ser Glu Pro Thr
      485                490                495
Pro Val Ile Tyr Thr Arg Pro Gly Asn Thr Val Lys Leu Asn Cys Met
      500                505                510
Ala Met Gly Ile Pro Lys Ala Asp Ile Thr Trp Glu Leu Pro Asp Lys
      515                520                525
Ser His Leu Lys Ala Gly Val Gln Ala Arg Leu Tyr Gly Asn Arg Phe
      530                535                540
Leu His Pro Gln Gly Ser Leu Thr Ile Gln His Ala Thr Gln Arg Asp
545                550                555                560
Ala Gly Phe Tyr Lys Cys Met Ala Lys Asn Ile Leu Gly Ser Asp Ser
      565                570                575
Lys Thr Thr Tyr Ile His Val Phe
      580

```

&lt;210&gt; 4607

&lt;211&gt; 456

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4607

nnagatctct gagggataga ttgccagaga aggggaagtt tcagtccagg catatgtgca  
 60  
 gagccttgat caattgagga aaagaaaggc tgttttacac aagagagaag ctgatgttgt  
 120  
 ttatgcactt cctaggtagt tagaaacaaa cctgtggcaa ggcaggctcc tggcaaacgg  
 180  
 aagtgcatt gtcggcaaga gatgcggacc acccagctgg gccctgggcg cttccaaatg  
 240  
 acccaggagg tggctctgcga cgaatgccct aatgtcaaac tagtgaatga agaacgaacg  
 300  
 ctggaagtag aaatagagcc tgggggtgaga gacggcatgg agtaccctt tattggagaa  
 360  
 ggtgagcctc acgtggatgg gnagcctgga gatttacggt tccgaatcaa agttgtcaag  
 420  
 caccaatat ttgaaaggag aggagatgat ctgtac  
 456

&lt;210&gt; 4608

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4608

Val	Val	Arg	Asn	Lys	Pro	Val	Ala	Arg	Gln	Ala	Pro	Gly	Lys	Arg	Lys
1				5					10				15		
Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg	Thr	Thr	Gln	Leu	Gly	Pro	Gly	Arg
			20					25				30			
Phe	Gln	Met	Thr	Gln	Glu	Val	Val	Cys	Asp	Glu	Cys	Pro	Asn	Val	Lys
			35				40					45			
Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu	Glu	Val	Glu	Ile	Glu	Pro	Gly	Val
			50			55					60				
Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe	Ile	Gly	Glu	Gly	Glu	Pro	His	Val
65					70				75					80	
Asp	Gly	Xaa	Pro	Gly	Asp	Leu	Arg	Phe	Arg	Ile	Lys	Val	Val	Lys	His
				85				90						95	
Pro	Ile	Phe	Glu	Arg	Arg	Gly	Asp	Asp	Leu	Tyr					
			100				105								

&lt;210&gt; 4609

&lt;211&gt; 904

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4609

ncggccgccg cgctgcagat ggcggaaatg gatccggtag ccgagttccc ccagcctccc  
 60  
 ggtgctgctg gctgggctga gggtatggct cgcttcgcgg ccaggctggg cgcgccgggc  
 120  
 cggcgggtgg tggtggttac gtcaggcggc accaaggctc cactggaagc gcggccgggtg  
 180  
 cgcttcctgg acaacttcag cagcggggcg cgcggtgcaa cctcggccga ggccttccta  
 240  
 gccgccggct acggggctct gttcttgat cgcgctcgct ctgccttccc ctatgccac  
 300

cgcttccac cccagacttg gctgtccgct ctgcggcctt cgggcccagc cctttcgggc  
 360  
 ttgctgagcc tggaggccga ggagaatgca cttccgggtt ttgctgaggc tctgaggagc  
 420  
 taccaggagg ctgcggctgc aggcaccttc ctggcagtag agttcaccac tttggcggac  
 480  
 tatttgcac tgttgcaggc tgcggcccag gcactcaatc cgctaggccc ttctgcatg  
 540  
 ttttacctgg ctgcggctgt gtcagatttc tatgttcctg tctctgaaat gcctgaacac  
 600  
 aagatccagt catctggggg cccactgcag ggaaaagtcc agttagaaga catacttcac  
 660  
 catcttgaaa aagaagaaat caatcccttc gctactacag aagaacaact ctgtttggtg  
 720  
 cttattccag ccagcacagt gaagacaggc tgaggactgc taccacagat gtagaagagc  
 780  
 ttatagttaa gcacatgggt gaaacaaaag aagtgagaac taatagcata gaattttaaa  
 840  
 gacacctgtg attttgttca ttgcccttca ttaaattgac atattaaaaa aaaaaaaaaa  
 900  
 aaaa  
 904

&lt;210&gt; 4610

&lt;211&gt; 250

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4610

Xaa	Ala	Ala	Ala	Leu	Gln	Met	Ala	Glu	Met	Asp	Pro	Val	Ala	Glu	Phe
1				5					10					15	
Pro	Gln	Pro	Pro	Gly	Ala	Ala	Arg	Trp	Ala	Glu	Val	Met	Ala	Arg	Phe
				20				25					30		
Ala	Ala	Arg	Leu	Gly	Ala	Gln	Gly	Arg	Arg	Val	Val	Leu	Val	Thr	Ser
				35				40					45		
Gly	Gly	Thr	Lys	Val	Pro	Leu	Glu	Ala	Arg	Pro	Val	Arg	Phe	Leu	Asp
				50			55				60				
Asn	Phe	Ser	Ser	Gly	Arg	Arg	Gly	Ala	Thr	Ser	Ala	Glu	Ala	Phe	Leu
65					70				75						80
Ala	Ala	Gly	Tyr	Gly	Val	Leu	Phe	Leu	Tyr	Arg	Ala	Arg	Ser	Ala	Phe
				85					90					95	
Pro	Tyr	Ala	His	Arg	Phe	Pro	Pro	Gln	Thr	Trp	Leu	Ser	Ala	Leu	Arg
			100					105					110		
Pro	Ser	Gly	Pro	Ala	Leu	Ser	Gly	Leu	Leu	Ser	Leu	Glu	Ala	Glu	Glu
			115				120					125			
Asn	Ala	Leu	Pro	Gly	Phe	Ala	Glu	Ala	Leu	Arg	Ser	Tyr	Gln	Glu	Ala
			130			135					140				
Ala	Ala	Ala	Gly	Thr	Phe	Leu	Ala	Val	Glu	Phe	Thr	Thr	Leu	Ala	Asp
145					150					155					160
Tyr	Leu	His	Leu	Leu	Gln	Ala	Ala	Ala	Gln	Ala	Leu	Asn	Pro	Leu	Gly
				165				170						175	
Pro	Ser	Ala	Met	Phe	Tyr	Leu	Ala	Ala	Ala	Val	Ser	Asp	Phe	Tyr	Val
			180					185					190		
Pro	Val	Ser	Glu	Met	Pro	Glu	His	Lys	Ile	Gln	Ser	Ser	Gly	Gly	Pro

195	200	205
Leu Gln Gly Lys Val Gln	Leu Glu Asp Ile Leu	His His Leu Glu Lys
210	215	220
Glu Glu Ile Asn Pro Leu	Ala Thr Thr Glu Glu	Gln Leu Cys Leu Val
225	230	235
Leu Ile Pro Ala Ser Thr	Val Lys Thr Gly	
245	250	

<210> 4611  
 <211> 1946  
 <212> DNA  
 <213> Homo sapiens

<400> 4611  
 cccggggcctt cggcggcggc ggcccgcgag gggcctgggc gcatgcgcag cgaggttcca  
 60  
 cgtgagcgcc tgcgtttctc ctcaaacctc acgatgccgc cggagcggag gagacgaatg  
 120  
 aaactggacc ggagaaccgg agcgaagccg aagcgggaagc ccggaatgag gccggactgg  
 180  
 aaagccggag cggggccagg cgggcctccc caaaagcctg ccccttcac cagcggaaa  
 240  
 ccgccggccc ggccgagcgc ggcggcgct gcgattgcag tcgcggcggc ggaggaagag  
 300  
 agacggctcc ggcagcggaa ccgcctgagg ctggaggagg acaaaccggc cgtggagcgg  
 360  
 tgcttgagg agctggtctt cggcgacgtc gagaacgacg aggacgcgtt gctgcggcgt  
 420  
 ctgcgaggcc cgaggggttca agaacatgaa gactcgggtg actcagaagt ggagaatgaa  
 480  
 gcaaaaggta attttccacc tcaaaagaag ccagtttggg tggatgaaga agatgaagat  
 540  
 gaggaaatgg ttgacatgat gaacaatcgg tttcggaagg atatgatgaa aaatgctagt  
 600  
 gaaagtaaac tttcgaaaga caaccttaaa aagagactta aagaagaatt ccaacatgcc  
 660  
 atgggaggag tacctgcctg ggcagagact actaagcggg aaacatcttc agatgatgaa  
 720  
 agtgaagagg atgaagatga tttgttgcaa aggactggga atttcatatc cacatcaact  
 780  
 tctcttccaa gaggcattct gaagatgaag aactgccagc atgcgaatgc tgaacgtcct  
 840  
 actgttgctc ggatctcatc tgtgcagttc catcccgggtg cacagattgt gatggttgct  
 900  
 ggattagata atgctgtatc actatttcag gttgatggga aaacaaatcc taaaattcag  
 960  
 agcatctatt tggaaagggt tccaatcttt aaggcttggt ttagtgctaa tggggaagaa  
 1020  
 gttttagcca cgagtaccca cagcaagggt ctttatgtct atgacatgct ggctggaaaag  
 1080  
 ttaattcctg tgcatacagt gagaggtttg aaagagaaga tagtgaggag ctttgaagtc  
 1140  
 tccccagatg ggtccttctt gtcataaat ggcattgctg gatatttgca tttgctagca  
 1200

atgaagacca aagaactgat tggaagcatg aaaattaatg gaagggttgc agcatccaca  
 1260  
 ttctcttcag atagtaagaa agtatacgcc tcttcggggg atggagaagt ttatgtttgg  
 1320  
 gatgtgaact caaggaagtg ccttaacaga tttgttgatg aaggcagttt atatggatta  
 1380  
 agcattgcca catctaggaa tggacagtat gttgcttggtg gttctaattg tggagtggta  
 1440  
 aatatataca atcaagattc ttgtctccaa gaaacaaacc caaagccaat aaaagctata  
 1500  
 atgaacttgg ttacaggtgt tactttctctg accttcaatc ctactacaga aatcttggca  
 1560  
 attgcttcag aaaaaatgaa agaagcagtc agattgggtc atcttccttc ctgtacagta  
 1620  
 ttttcaaact tcccagtcac taaaaataag aatatttctc atgttcatac catggatttt  
 1680  
 tctccgagaa gtggatactt tgccttgggg aatgaaaagg gcaaggccct gatgtatagg  
 1740  
 ttgcaccatt actcagactt ctaaagagac tatttgaagt ccagttgagt cacaagagaa  
 1800  
 gcctgtcttg atatatcatc tcagaaactt tctgaatat gtgataatat atggaaaatg  
 1860  
 atttatagat ccagctgtgc ttaagagcca gtaatgtctt aataaacatg tggcagcttt  
 1920  
 tgtttgaaaa aaaaaaaaaa aaaaaa  
 1946

&lt;210&gt; 4612

&lt;211&gt; 532

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4612

Met	Arg	Pro	Asp	Trp	Lys	Ala	Gly	Ala	Gly	Pro	Gly	Gly	Pro	Pro	Gln
1				5					10					15	
Lys	Pro	Ala	Pro	Ser	Ser	Gln	Arg	Lys	Pro	Pro	Ala	Arg	Pro	Ser	Ala
		20						25					30		
Ala	Ala	Ala	Ala	Ile	Ala	Val	Ala	Ala	Ala	Glu	Glu	Glu	Arg	Arg	Leu
		35					40					45			
Arg	Gln	Arg	Asn	Arg	Leu	Arg	Leu	Glu	Glu	Asp	Lys	Pro	Ala	Val	Glu
	50				55					60					
Arg	Cys	Leu	Glu	Glu	Leu	Val	Phe	Gly	Asp	Val	Glu	Asn	Asp	Glu	Asp
65					70				75					80	
Ala	Leu	Leu	Arg	Arg	Leu	Arg	Gly	Pro	Arg	Val	Gln	Glu	His	Glu	Asp
			85					90						95	
Ser	Gly	Asp	Ser	Glu	Val	Glu	Asn	Glu	Ala	Lys	Gly	Asn	Phe	Pro	Pro
		100						105					110		
Gln	Lys	Lys	Pro	Val	Trp	Val	Asp	Glu	Glu	Asp	Glu	Asp	Glu	Glu	Met
	115						120					125			
Val	Asp	Met	Met	Asn	Asn	Arg	Phe	Arg	Lys	Asp	Met	Met	Lys	Asn	Ala
	130					135					140				
Ser	Glu	Ser	Lys	Leu	Ser	Lys	Asp	Asn	Leu	Lys	Lys	Arg	Leu	Lys	Glu
145					150					155				160	
Glu	Phe	Gln	His	Ala	Met	Gly	Gly	Val	Pro	Ala	Trp	Ala	Glu	Thr	Thr



					165					170					175				
Lys	Arg	Lys	Thr	Ser	Ser	Asp	Asp	Glu	Ser	Glu	Glu	Asp	Glu	Asp	Asp				
			180					185					190						
Leu	Leu	Gln	Arg	Thr	Gly	Asn	Phe	Ile	Ser	Thr	Ser	Thr	Ser	Leu	Pro				
		195					200					205							
Arg	Gly	Ile	Leu	Lys	Met	Lys	Asn	Cys	Gln	His	Ala	Asn	Ala	Glu	Arg				
	210					215					220								
Pro	Thr	Val	Ala	Arg	Ile	Ser	Ser	Val	Gln	Phe	His	Pro	Gly	Ala	Gln				
225					230					235					240				
Ile	Val	Met	Val	Ala	Gly	Leu	Asp	Asn	Ala	Val	Ser	Leu	Phe	Gln	Val				
				245					250					255					
Asp	Gly	Lys	Thr	Asn	Pro	Lys	Ile	Gln	Ser	Ile	Tyr	Leu	Glu	Arg	Phe				
			260					265					270						
Pro	Ile	Phe	Lys	Ala	Cys	Phe	Ser	Ala	Asn	Gly	Glu	Glu	Val	Leu	Ala				
		275					280					285							
Thr	Ser	Thr	His	Ser	Lys	Val	Leu	Tyr	Val	Tyr	Asp	Met	Leu	Ala	Gly				
	290				295						300								
Lys	Leu	Ile	Pro	Val	His	Gln	Val	Arg	Gly	Leu	Lys	Glu	Lys	Ile	Val				
305					310					315					320				
Arg	Ser	Phe	Glu	Val	Ser	Pro	Asp	Gly	Ser	Phe	Leu	Leu	Ile	Asn	Gly				
			325					330						335					
Ile	Ala	Gly	Tyr	Leu	His	Leu	Leu	Ala	Met	Lys	Thr	Lys	Glu	Leu	Ile				
			340					345					350						
Gly	Ser	Met	Lys	Ile	Asn	Gly	Arg	Val	Ala	Ala	Ser	Thr	Phe	Ser	Ser				
		355					360					365							
Asp	Ser	Lys	Lys	Val	Tyr	Ala	Ser	Ser	Gly	Asp	Gly	Glu	Val	Tyr	Val				
	370				375						380								
Trp	Asp	Val	Asn	Ser	Arg	Lys	Cys	Leu	Asn	Arg	Phe	Val	Asp	Glu	Gly				
385				390						395					400				
Ser	Leu	Tyr	Gly	Leu	Ser	Ile	Ala	Thr	Ser	Arg	Asn	Gly	Gln	Tyr	Val				
			405					410					415						
Ala	Cys	Gly	Ser	Asn	Cys	Gly	Val	Val	Asn	Ile	Tyr	Asn	Gln	Asp	Ser				
			420					425					430						
Cys	Leu	Gln	Glu	Thr	Asn	Pro	Lys	Pro	Ile	Lys	Ala	Ile	Met	Asn	Leu				
		435					440					445							
Val	Thr	Gly	Val	Thr	Ser	Leu	Thr	Phe	Asn	Pro	Thr	Thr	Glu	Ile	Leu				
	450					455													

```
<210> 4613
<211> 454
<212> DNA
<213> Homo sapiens

<400> 4613
```

cggccgcgtg tacacacagg cctataatag tgacacgctg gtgagtgttc tgggcactgt  
 60  
 gcctgcagtg ttcccttgcg gggcaggggc tgcctacac atgcacaagc tctgggtgtt  
 120  
 ctttaaggcg tttgatttct gaagattgac aagggttctgt ttattgtata ttatgtttaa  
 180  
 tgatctcagt tgtaatatgg tcaagatttg gggttggaag attaggaagt ccttacagt  
 240  
 aaactcattg ctcatcgtga gattcccggt tgtaaactca tttccacgtg taaactcatt  
 300  
 tgacgttggg gccagacagg tgacaggaga gggagttggg cctcgtgggg atagtggcaa  
 360  
 attgggacgt ggcattgttt cattaaagcg aggtgttccct ccctgtcggc tgcgtgtctc  
 420  
 tgtggcatgg ggctagcctg ccctgcccct gcag  
 454

<210> 4614  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 4614  
 Met Pro Arg Pro Asn Leu Pro Leu Ser Pro Arg Gly Pro Thr Pro Ser  
 1 5 10 15  
 Pro Val Thr Cys Leu Ala Pro Thr Ser Asn Glu Phe Thr Arg Gly Asn  
 20 25 30  
 Glu Phe Thr Asn Gly Asn Leu Thr Met Ser Asn Glu Phe His Cys Lys  
 35 40 45  
 Asp Phe Leu Ile Phe Thr Thr Gln Ile Leu Thr Ile Leu Gln Leu Arg  
 50 55 60  
 Ser Leu Asn Ile Ile Tyr Asn Lys Gln Asn Leu Val Asn Leu Gln Lys  
 65 70 75 80  
 Ser Asn Ala Leu Lys Lys His Gln Ser Leu Cys Met Cys Arg Thr Asp  
 85 90 95  
 Pro Ala Pro Gln Gly Asn Thr Ala Gly Thr Val Pro Arg Thr Leu Thr  
 100 105 110  
 Ser Val Ser Leu Leu  
 115

<210> 4615  
 <211> 1350  
 <212> DNA  
 <213> Homo sapiens

<400> 4615  
 nntgattcgg tcccgtgtgc ctagggcgga tgggtgccgt gtgccagggt gaagtattgt  
 60  
 attttgcaaa aagtgtgaa ataacaggag ttcgttcaga gaccatttct gtgcctcaag  
 120  
 aaataaaagc gttgcagctg tggaaggaga tagaaactcg acatcctgga ttggctgatg  
 180  
 ttagaaatca gataatattt gctgttcgtc aagaatatgt cgagcttgga gatcagctcc  
 240

tcgtgcttca gcctggagac gaaattgccg ttatcccccc cattagtgga ggatagtgct  
 300  
 tttgagccat ctaggaaaga tatggatgaa gttgaagaga aatctaaaga tggtataaac  
 360  
 tttactgccg agaaactttc agtagatgaa gtctcacagt tggtgatttc tccgctctgt  
 420  
 ggtgcaatat ccctatttgt agggactaca agaaataact ttgaaggga aaaagtcatt  
 480  
 agcttagaat atgaagcata tctacccatg gcggaaaatg aagtcagaaa gatttgtagt  
 540  
 gacattaggc agaaatggcc agtcaaacac atagcagtgt tccatctgat tggcttggtt  
 600  
 ccagtgtcag aagcaagcac agttattgct gtgtcctcag cccacagagc tgcattctct  
 660  
 gaagctgtga gctatgccat tgattcttta aaagccaagg tgcccatatg gaaaaaggaa  
 720  
 atatatgaag agtcatcaac ttggaaagga aacaaagagt gcttttgggc atccaacagt  
 780  
 taatcactta tgtttttaga gcatgcaatc ttaactttgt taaactatta ttattgatca  
 840  
 cattttgatt tttttctctc cacatcagga tagtttactg aagcacaatc tcttatacta  
 900  
 gtgggacaaa agggagaaaa aggaagcaag ataaatgggt atgtaggatg aagggttatt  
 960  
 taaaatggaa ctaaagatag aaggaggact gtaggaagaa atggaataat ttaaattgtg  
 1020  
 ggaaagatat ctgtggtaga catgtccttc catgactaat ttctaattgt aactcaacac  
 1080  
 acattgaggt atgggcccctc ctcaagtact ttaactagct cagaaacgta cccccacc  
 1140  
 aacccacct caccgcccc ccatcccggt ctgggagagc attgttatta aggatgcatg  
 1200  
 acaggaatgt tggcagaact ggaaagtatt aaaaaagcat tatcagacag tcttgatatt  
 1260  
 atacattttc agaaatatat taaaaataat aaactaaaac ccatgatttc aaaagtttaa  
 1320  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1350

&lt;210&gt; 4616

&lt;211&gt; 188

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4616

Met	Ser	Ser	Leu	Glu	Ile	Ser	Ser	Ser	Cys	Phe	Ser	Leu	Glu	Thr	Lys
1				5					10					15	
Leu	Pro	Leu	Ser	Pro	Pro	Leu	Val	Glu	Asp	Ser	Ala	Phe	Glu	Pro	Ser
			20					25					30		
Arg	Lys	Asp	Met	Asp	Glu	Val	Glu	Lys	Ser	Lys	Asp	Val	Ile	Asn	
		35					40				45				
Phe	Thr	Ala	Glu	Lys	Leu	Ser	Val	Asp	Glu	Val	Ser	Gln	Leu	Val	Ile
	50					55					60				
Ser	Pro	Leu	Cys	Gly	Ala	Ile	Ser	Leu	Phe	Val	Gly	Thr	Thr	Arg	Asn

<400>	4617				
tccggagccg	ggggactgcg	acggcctgtc	gcctggacaa	caaggaaagc	gagtcctggg
60					
gggctctgct	gagcggagag	cggctggaca	cctggatctg	ctccctcctg	ggttccctca
120					
tggtggggct	cagtggggtc	ttcccgttgc	ttgtcattcc	cctagagatg	gggaccatgc
180					
tgcgctcaga	agctggggcc	tgggcgcctg	aagcagctgc	tcagcttcgc	cctgggggga
240					
ctcttgggca	atgtgtttct	gcattctgctg	cccgaagcct	gggcctacac	gtgcagcgcc
300					
agccctggtg	gtgaggggca	gagcctgcag	cagcagcaac	agctggggct	gtgggtcatt
360					
gctggcatcc	tgaccttcc	ggcgttgagg	aagatgttcc	tggacagcaa	ggaggagggg
420					
accagccagg	cccccaacaa	agacccact	gctgctgccg	ccgcactcaa	tggaggccac
480					
tgtctggccc	agccgactgc	agagcccggc	ctcggtgccg	tggtcgggag	catcaaagtc
540					
agcggctacc	tcaacctgct	ggccaacacc	atcgataact	tcaccacagg	gctggctgtg
600					
gctgccagct	tccttgtgag	caagaagatc	gggctcctga	caaccatggc	catcctcctg
660					
catgagatcc	cccatgaggt	gggcgacttt	gccatcctgc	tccgggccgg	ctttgaccga
720					
tggagcgcag	ccaagctgca	actctcaaca	gcgctggggg	gcctactggg	cgctggcttc
780					
gccatctgta	cccagtcccc	caaggggagta	gaggagacgg	cagcctgggt	cctgcccttc
840					
acctctggcg	gctttctcta	catcgcttg	gtgaacgtgc	tcctgacct	cttgggaagaa
900					
gaggacccgt	ggcgctccct	gcagcagctg	cttctgctct	gtgcgggcat	cgtggtaatg
960					

gtgctgttct cgtcttctgt ggattaactt tccctgatgc cgacgcccct gccccctgca  
 1020  
 gcaataagat gctcggattc actctgtgac cgcataatgtg agaggcagag agggcgagtg  
 1080  
 gctgcgagag agaattgagcc tcccgccaga caggagggag gtgcgtgtgg atgtatgtgg  
 1140  
 tgtgcacatg tggccagagg tgtgtgcgag agaccgacac tgtgatccct gtgctgggtc  
 1200  
 cggggccccag tgtagcgcct gtccccagcc atgctgtggt tacctctcct tgccgcccctg  
 1260  
 tcaccttcac ctcttgaggt aagcagcgag gaagagcagc actgggtccca agcagaggcc  
 1320  
 ttgcccctgct gggaccccgg gaggtagagc agcccaagga tcccagggtg cagggaactc  
 1380  
 cagagctgcc cacctcccac tgccccctca gcacacacac agtccccagg cggcctaggg  
 1440  
 gccaaggctg ggggcggctt tgggtccctt tcttggtctt tcttcccca cttctaagcc  
 1500  
 aaagaaagga gaggcaggtg ctctgtacc ccagccccac tcagcactga cagtccccag  
 1560  
 ctctagtag tgagctggga ggcgttctt aagaccctt cctcaggggt gccctgggag  
 1620  
 ctcatctctg gccaacacgc cctggcagca ccagcagctc ttgccacctc cagctgcca  
 1680  
 acagcagcct gccgggcagg gaggagcccc aggcagaga ggcctcccgg tccagctcag  
 1740  
 ggatgctcct gccagcacag gggccagggg ctctggagc aggcacatag tgagcccggg  
 1800  
 cagccctgcc cagctcaggc ccttttctt cccattgag gttggggtag gtgggggcgg  
 1860  
 tgagggtctc acgttgctcag cgtcaggaa tgtgtccgg cagagtgtg aagccataat  
 1920  
 cccaacat ttccttggc tgacgcccag gtactcagct ggcccactcc acagccaggc  
 1980  
 ctggccctgc ccttcaccgt ggatgttttc agaagtggcc atcgagaggt ctggatggtt  
 2040  
 ttatagcaac tttgtgtga ttccgtttgt atctgtaaat atttgttcta tagataagat  
 2100  
 acaataaat attatccaca tactggctgc cttggttctg cagccttcc atgggcagca  
 2160  
 gggccttct tactgccact gccaggcct ttttctgaa aaaaaaaaaa aaaaaaaaaa  
 2220  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa  
 2266

&lt;210&gt; 4618

&lt;211&gt; 197

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4618

Met Phe Leu Asp Ser Lys Glu Glu Gly Thr Ser Gln Ala Pro Asn Lys  
 1 5 10 15  
 Asp Pro Thr Ala Ala Ala Ala Ala Leu Asn Gly Gly His Cys Leu Ala

```

      20      25      30
Gln Pro Thr Ala Glu Pro Gly Leu Gly Ala Val Val Arg Ser Ile Lys
      35      40      45
Val Ser Gly Tyr Leu Asn Leu Ala Asn Thr Ile Asp Asn Phe Thr
      50      55      60
His Gly Leu Ala Val Ala Ala Ser Phe Leu Val Ser Lys Lys Ile Gly
65      70      75      80
Leu Leu Thr Thr Met Ala Ile Leu Leu His Glu Ile Pro His Glu Val
      85      90      95
Gly Asp Phe Ala Ile Leu Leu Arg Ala Gly Phe Asp Arg Trp Ser Ala
      100      105      110
Ala Lys Leu Gln Leu Ser Thr Ala Leu Gly Gly Leu Leu Gly Ala Gly
      115      120      125
Phe Ala Ile Cys Thr Gln Ser Pro Lys Gly Val Glu Glu Thr Ala Ala
      130      135      140
Trp Val Leu Pro Phe Thr Ser Gly Gly Phe Leu Tyr Ile Ala Leu Val
145      150      155      160
Asn Val Leu Pro Asp Leu Leu Glu Glu Glu Asp Pro Trp Arg Ser Leu
      165      170      175
Gln Gln Leu Leu Leu Cys Ala Gly Ile Val Val Met Val Leu Phe
      180      185      190
Ser Leu Phe Val Asp
      195

```

&lt;210&gt; 4619

&lt;211&gt; 539

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4619

```

cggggacttc ttgattgagg tagggacaca ggtgtctgta tctttctgct tggggagagc
60
gccgactctc ggggagaggg tcgtagtcct ggcagcacag ccacgaggcc cagtctgggg
120
gtgcttgtgg aggctgccat gaactttcat tgggtcaattt ctcccacccg ggggtgcacc
180
tgccctgggaa cctgggggttg ggccctggctt gaaggccttg gccgtaaccc gttggaagga
240
ggaaaagtct gtggaatttg gtcattgggtc ttgaagtaga aggtagaaaag aggaggcatg
300
tggtcccat gatgttgggg acatgtgcag acctgtgggt ggtttagttg ttgcttaata
360
gggcccccaag aggagtcatt gtcctttctt gtgtcctatg ggtgagtcgg caaccactct
420
tgtgtggcag ttgctggcgt gaggtctgta acattgatgg ctaagagctt gtagatttgc
480
aggttgtgat aaccacccca tcagatggac gatggccttc caagaccaag gagccccggg
539

```

&lt;210&gt; 4620

&lt;211&gt; 103

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4620

```

Met Gly Thr Thr Cys Leu Leu Phe Leu Pro Ser Thr Ser Arg Pro Met
 1           5           10           15
Thr Lys Phe His Arg Leu Phe Leu Leu Pro Thr Gly Tyr Gly Gln Gly
 20           25           30
Leu Gln Ala Arg Pro Asn Pro Arg Phe Pro Gly Arg Cys Thr Pro Gly
 35           40           45
Trp Glu Lys Leu Thr Asn Glu Ser Ser Trp Gln Pro Pro Gln Ala Pro
 50           55           60
Pro Asp Trp Ala Ser Trp Leu Cys Cys Gln Asp Tyr Asp Pro Leu Pro
 65           70           75           80
Glu Ser Arg Arg Ser Pro Gln Ala Glu Arg Tyr Arg His Leu Cys Pro
 85           90           95
Tyr Leu Asn Gln Glu Val Pro
 100

```

&lt;210&gt; 4621

&lt;211&gt; 2588

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4621

```

ncttcctctc tggccgcgag cccctcttgt gattggtaag accttcccag ctgtgacagc
60
tgagcccaac tcgactctgt gaaacgtacc ccacccccca gcccttcttc cagtccccct
120
cttccatgag gagaccact ctgctcccac cctctgaaaa cctaaagcac agcccaaata
180
ccccacccca gcagcatacc tagggagctc ctagtcttgg taaaacggca ggagtagggc
240
tggggatgct gagaaaggaa ccaggaatcc tgtccaggca ggtcctacct ctgccccatg
300
ggctggccct catgtctggg tcttctcact ctactctcat tactcctccg cgcctgtcaa
360
accctcatt gttcgcagct gatgtcactc gcagttgtga gcggccgcct ctcccgggga
420
caatgtggga ctgagcggcc cagccgccgt gccgccgcgc ccgccgcgcg aggacagccc
480
cagcgaggcc atttccagca catagaagag agattggaaa ccaacgtgca gaactgccag
540
tcccctgaca cgctgtgccc caccactgc agcccagtgc tgaatgaacc ctgcccagag
600
gtgtctgtag tgagcttctg ccctagtgc ttttgagccg gccaggttgc agcgcgga
660
cactcgcagg tcgctgtggc ccagcctcg cctgacagaa tgagcggctc ggacggggga
720
ctggaggagg agccagagct cagcatcacc ctacgctgc ggatgctgat gcacgggaag
780
gaagtgggca gcatcatcgg gaagaagggc gagactgtaa agcgaatccg ggagcagagc
840
agtccccgga tcaccatctc cgagggtccc tgccctgaac gcatcaccac catcaccggg
900
tctacagcag ctgtcttcca tgcagtctcc atgattgctt tcaaactgga tgaggacctt
960

```

tgtgctgctc ctgcaaattg tggaaatgtc tccaggcctc cagtgaccct gcgccttgct  
1020  
atccctgcc a gtcagtgtgg ctactgatt ggggaaggctg gcaccaagat caaggagatc  
1080  
cgagagacta cgggtgccca ggtacagggtg gcaggggacc tgctcccaa ctccacagag  
1140  
cgagctgtta cggtatctgg ggtgcctgat gccatcatcc tgtgtgtgcg ccagatctgc  
1200  
gctgttatcc tggagtcccc acccaaagga gccactatcc cctaccatcc gagectctcc  
1260  
ctagggtactg ttcttctctc tgccaaccag ggcttctctg tccagggtca gtatggggct  
1320  
gtgaccccag ctgagggtcac caagctccag cagctctcaa gccatgcggg cccctttgcc  
1380  
acaccagcg tggtgccagg actggatccc ggcacacaga ccagctcaca ggagttcttg  
1440  
gttcccaacg atttgattgg ctgtgtgatc gggcgccagg gcagcaagat cagcgagatc  
1500  
cggcagatgt caggggcaca tatcaagatc gggaaaccaag cagagggcgc tggggagcgg  
1560  
catgtcacca tcaactggctc tccgggtctcc atcgccctgg cccagtacct catcactgcc  
1620  
tgtctagaga cggccaagtc tacctctggg gggacgcctg gctcagcccc cgcagacctg  
1680  
cccacccctt tctcgccacc cctgacggcc ctgcccacag ctccccagg cctgctgggg  
1740  
acaccttatg ccatctccct ctccaacttc atcggcctca agcctgtgcc ctccctgggt  
1800  
ctaccacctg ctccccagg gccaccgccc ggcttggcgg cctacactgc caagatggca  
1860  
gcgccaatg ggagcaagaa agctgaacgg cagaaattct cccctactg aggccagctg  
1920  
aggtacaggc aggggcaggc aggaccacca gcaggggggt gcctctgcac cctaccgcc  
1980  
caaggagact ccaccctggg gtcccaaacg ccgctaacgc ccagacgcat ggatgcaccc  
2040  
cctaccctgc ctccatctat gggagttctt tctctcagag tgggggcagt ttctggccca  
2100  
ggggtctgag ctgcggcagc cccagggcag ggggccctac ctctcagct ctgtgcttgg  
2160  
atacaggag cagccaggag actccctagt gccccacca tggcgggtgt cactcacgca  
2220  
ctccccatcc cttagggctt cctggcctac tgcctccttg tgggagtcag ggaggagggc  
2280  
ccgttgggta gctggggcca ggcttctctc cccaccacct gcagatttct tgctgcttcc  
2340  
actgataccc ttttgactgg aatgaactgg ctgggcttgt cagggggcac ccaaagagg  
2400  
gggcactgcc aggtagctgg gggagtggca tggggcaggg gccagttct cagcagcaga  
2460  
cactctgtac agttttttca atccctgttt ttgaataaat attctcagcg accaaaaaaa  
2520  
aaaaaaaaa aaaaaaaaaa aaaacacaac aaaacttacc attcctcctt actcaaacac  
2580



ccccccct  
2588

<210> 4622  
<211> 403  
<212> PRT  
<213> Homo sapiens

<400> 4622  
Met Ser Gly Ser Asp Gly Gly Leu Glu Glu Glu Pro Glu Leu Ser Ile  
1 5 10 15  
Thr Leu Thr Leu Arg Met Leu Met His Gly Lys Glu Val Gly Ser Ile  
20 25 30  
Ile Gly Lys Lys Gly Glu Thr Val Lys Arg Ile Arg Glu Gln Ser Ser  
35 40 45  
Ala Arg Ile Thr Ile Ser Glu Gly Ser Cys Pro Glu Arg Ile Thr Thr  
50 55 60  
Ile Thr Gly Ser Thr Ala Val Phe His Ala Val Ser Met Ile Ala  
65 70 75 80  
Phe Lys Leu Asp Glu Asp Leu Cys Ala Ala Pro Ala Asn Gly Gly Asn  
85 90 95  
Val Ser Arg Pro Pro Val Thr Leu Arg Leu Val Ile Pro Ala Ser Gln  
100 105 110  
Cys Gly Ser Leu Ile Gly Lys Ala Gly Thr Lys Ile Lys Glu Ile Arg  
115 120 125  
Glu Thr Thr Gly Ala Gln Val Gln Val Ala Gly Asp Leu Leu Pro Asn  
130 135 140  
Ser Thr Glu Arg Ala Val Thr Val Ser Gly Val Pro Asp Ala Ile Ile  
145 150 155 160  
Leu Cys Val Arg Gln Ile Cys Ala Val Ile Leu Glu Ser Pro Pro Lys  
165 170 175  
Gly Ala Thr Ile Pro Tyr His Pro Ser Leu Ser Leu Gly Thr Val Leu  
180 185 190  
Leu Ser Ala Asn Gln Gly Phe Ser Val Gln Gly Gln Tyr Gly Ala Val  
195 200 205  
Thr Pro Ala Glu Val Thr Lys Leu Gln Gln Leu Ser Ser His Ala Val  
210 215 220  
Pro Phe Ala Thr Pro Ser Val Val Pro Gly Leu Asp Pro Gly Thr Gln  
225 230 235 240  
Thr Ser Ser Gln Glu Phe Leu Val Pro Asn Asp Leu Ile Gly Cys Val  
245 250 255  
Ile Gly Arg Gln Gly Ser Lys Ile Ser Glu Ile Arg Gln Met Ser Gly  
260 265 270  
Ala His Ile Lys Ile Gly Asn Gln Ala Glu Gly Ala Gly Glu Arg His  
275 280 285  
Val Thr Ile Thr Gly Ser Pro Val Ser Ile Ala Leu Ala Gln Tyr Leu  
290 295 300  
Ile Thr Ala Cys Leu Glu Thr Ala Lys Ser Thr Ser Gly Gly Thr Pro  
305 310 315 320  
Gly Ser Ala Pro Ala Asp Leu Pro Thr Pro Phe Ser Pro Pro Leu Thr  
325 330 335  
Ala Leu Pro Thr Ala Pro Pro Gly Leu Leu Gly Thr Pro Tyr Ala Ile  
340 345 350  
Ser Leu Ser Asn Phe Ile Gly Leu Lys Pro Val Pro Phe Leu Ala Leu

BNSDOCID: <WO\_\_\_\_\_0058473A2\_1\_>

aacatggccc tcggcaagaa ggcggctgac agcctgcagc agaatctgca gcgggactac  
 1260  
 gaccggggcca tgagctggaa gtacagccgg ggagccggcc tcggcttctc caccgcccc  
 1320  
 aacaagatct ttacattga caggaacgct tccaagtcag tcaagctgga agattaaact  
 1380  
 ctagagtttt gtccccccaa aactgccaca attgctttga ttattccatt tatgctggag  
 1440  
 attacaaatt ttttttgtga aaaaatcaga tcttggtgag gacctcgagc agtaagatat  
 1500  
 aaataactcc cataagctta gcgttccagt aatggaacac taggcataaa tggttttatc  
 1560  
 agttgtgcaa atgaaagcca tctgacagtt ggctcacatt gaacacctgt ggagattaag  
 1620  
 gacgaggaca actatattga tgggcttgga tgaactgggg cagggcagct catatttcgg  
 1680  
 gagccaggag aacgagttag tgctaaaacc tctgttttc tgtgttaaac attccgtccc  
 1740  
 tgtttgagac atcagtatgt acagttaact tttgttgagt gtttagcagg tactagggac  
 1800  
 atactagtgt tttccttaat gtatttaatc ttcataatta tgaaatgggt gctattatta  
 1860  
 gccccatctt atagatgagg caactgaggt tcagggataa agtaataaaa ttgcttgggg  
 1920  
 tcaccagcc actaagtga ggggtgtgta cttttgtacc cgaagcccta agttcactat  
 1980  
 tcgccactct gaatgtcccc ttaggggaat ttccaccaga atcctcgttg gggattgaaa  
 2040  
 tgtctttaga tggaggaaaa agttttatga caagtctgca tctctgataa aaagtggagt  
 2100  
 gaatgaggaa cggagaatcg caagctcctt ttccttcctt ttcctttccc ctgtcataga  
 2160  
 gcagctgtag gcagagaggt gtctgagttg ttaccaaaca catgtgactg agctgctgct  
 2220

&lt;210&gt; 4624

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4624

Met	Lys	Ser	Lys	Lys	Lys	Val	Glu	Gln	Pro	Val	Ile	Glu	Glu	Pro	Ala
1				5					10					15	
Leu	Lys	Arg	Lys	Lys	Lys	Lys	Lys	Arg	Lys	Glu	Ser	Gly	Val	Ala	Gly
			20					25					30		
Asp	Pro	Trp	Lys	Glu	Glu	Thr	Asp	Thr	Asp	Leu	Glu	Val	Val	Leu	Glu
		35					40					45			
Lys	Lys	Gly	Asn	Met	Asp	Glu	Ala	His	Ile	Asp	Gln	Val	Arg	Arg	Lys
	50					55					60				
Ala	Leu	Gln	Glu	Glu	Ile	Asp	Arg	Glu	Ser	Gly	Lys	Thr	Glu	Ala	Ser
65					70					75				80	
Glu	Thr	Arg	Lys	Trp	Thr	Gly	Thr	Gln	Phe	Gly	Gln	Trp	Asp	Thr	Ala
			85					90					95		
Gly	Phe	Glu	Asn	Glu	Asp	Gln	Lys	Leu	Lys	Phe	Leu	Arg	Leu	Met	Gly

```

      100      105      110
Gly Phe Lys Asn Leu Ser Pro Ser Phe Ser Arg Pro Ala Ser Thr Ile
      115      120      125
Ala Arg Pro Asn Met Ala Leu Gly Lys Lys Ala Ala Asp Ser Leu Gln
      130      135      140
Gln Asn Leu Gln Arg Asp Tyr Asp Arg Ala Met Ser Trp Lys Tyr Ser
      145      150      155      160
Arg Gly Ala Gly Leu Gly Phe Ser Thr Ala Pro Asn Lys Ile Phe Tyr
      165      170      175
Ile Asp Arg Asn Ala Ser Lys Ser Val Lys Leu Glu Asp
      180      185

```

<210> 4625  
 <211> 334  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4625
cgggagcagc ggaagctgca ggagaaggag cagcagcggc ggctggagga catgcaggct
60
ctgcgggcggg aggaggagcg gcggcaggcg gagcgcgagc aggaatacaa gcggaaacag
120
ctggaggagc agcggcagtc agaacgtctc cagaggcagc tgcagcagga gcatgcctac
180
ctaaagtccc tgcagcagca gcaacagcag cagcagcttc agaaacagca gcagcagcag
240
ctcctgcctg gggacaggaa gcccctgtac cattatgggc ggggcatgaa tcccgctgac
300
aaaccagcct gggcccgaga gggagaagag agac
334

```

<210> 4626  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4626
Arg Glu Gln Arg Lys Leu Gln Glu Lys Glu Gln Gln Arg Arg Leu Glu
1      5      10      15
Asp Met Gln Ala Leu Arg Arg Glu Glu Glu Arg Arg Gln Ala Glu Arg
20      25      30
Glu Gln Glu Tyr Lys Arg Lys Gln Leu Glu Glu Gln Arg Gln Ser Glu
35      40      45
Arg Leu Gln Arg Gln Leu Gln Glu His Ala Tyr Leu Lys Ser Leu
50      55      60
Gln Gln Gln Gln Gln Gln Gln Gln Leu Gln Lys Gln Gln Gln Gln Gln
65      70      75      80
Leu Leu Pro Gly Asp Arg Lys Pro Leu Tyr His Tyr Gly Arg Gly Met
85      90      95
Asn Pro Ala Asp Lys Pro Ala Trp Ala Arg Glu Gly Glu Glu Arg
100      105      110

```

<210> 4627  
 <211> 1736

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4627

nnagttgcct tgacctgcag ctccggcacc gcggacccgc cttctgcctt cagcagcaga  
60  
cgctctgtcc cgcccgggca gctctgcgag gcagcggctg gagagggaac catggggact  
120  
gtgcacgccc ggagtttgga gcctcttcca tcaagtggac ctgattttgg aggattagga  
180  
gaagaagctg aatttggtga agttgagcct gaagctaaac aggaaattct tgaaaacaaa  
240  
gatgtggttg ttcaacatgt tcattttgat ggacttgga ggactaaaga tgatatcatc  
300  
atttggtgaa ttggagatgt tttcaaggcc aaaaaccta ttgaggtaat gcggaaatct  
360  
catgaagccc gtgaaaaatt gctccgtctt ggaattttta gacaagtga tgttttgatt  
420  
gacacatgtc aaggatgatg cgcacttcca aatggggttag acgttacctt tgaagtaact  
480  
gaattgagga gattaacggg cagttataac accatgggtg ggaacaatga aggcagtatg  
540  
gtacttgccc tcaagcttcc taatcttctt ggtcgtgcag aaaagggtgac ctttcagttt  
600  
tcctatggaa caaaagaaac ttcgtatggc ctgtccttct tcaaaccacg gcccggaaac  
660  
ttcgaaagaa atttctctgt aaacttatat aaagtactg gacagttccc ttggagctca  
720  
ctgcgggaga cggacagagg aatgtcagct gactacagtt tcccatatg gaagaccagc  
780  
cacactgtca agtgggaagg cgtatggcga gaactgggct gcctctcaag gacggcgtca  
840  
tttgctgttc gaaaagaaag cggacattca ctgaaatcat ctctttcgca cgccatggtc  
900  
atcgattctc ggaattcttc catcttacca aggagagggtg ctttgctgaa agttaaccag  
960  
gaactggcag gctacactgg cggggatgtg agcttcatca aagaagattt tgaacttcag  
1020  
ttgaacaagc aactcatatt tgattcagtt ttttcagcgt ctttctgggg cggaatgttg  
1080  
gtaccatttg gtgataagcc gtcaagcatt gctgataggt ttaccttg gggaaccaca  
1140  
agcgtccgag gattcagcat gcacagcatc gggccacaga gcgaaggaga ctacctaggt  
1200  
ggagaagcgt actgggcccg cggcctgcac ctctacaccc cattacctt ccggccaggc  
1260  
caggggtggct ttggagaact tttccgaaca cacttctttc tcaacgcagg aaactctgc  
1320  
aacctcaact atggggaggg ccccaaagct catattcgta agctggctga gtgcatccgc  
1380  
tggtcgtagc gggccgggat tgcctcagg cttggcaaca tcgctcggtt ggaacttaat  
1440  
tactgcgtcc ccatgggagt acagacaggc gacaggatat gtgatggcgt ccagtttggg  
1500

gctgggataa ggttcctgta gccgacaccc ctacaggaga agctctggga ctggggcagc  
 1560  
 agcaaggcgc ccatgccaca caccgtctct cgaggaaacg cggttcagcg attctttgac  
 1620  
 tgcggaccct gtgggaaacc ccgtcaataa atgttaaaga cacactcaaa aaaaaaaaaa  
 1680  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa  
 1736

<210> 4628  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 4628  
 Met Gly Thr Val His Ala Arg Ser Leu Glu Pro Leu Pro Ser Ser Gly  
 1 5 10 15  
 Pro Asp Phe Gly Gly Leu Gly Glu Glu Ala Glu Phe Val Glu Val Glu  
 20 25 30  
 Pro Glu Ala Lys Gln Glu Ile Leu Glu Asn Lys Asp Val Val Val Gln  
 35 40 45  
 His Val His Phe Asp Gly Leu Gly Arg Thr Lys Asp Asp Ile Ile Ile  
 50 55 60  
 Cys Glu Ile Gly Asp Val Phe Lys Ala Lys Asn Leu Ile Glu Val Met  
 65 70 75 80  
 Arg Lys Ser His Glu Ala Arg Glu Lys Leu Leu Arg Leu Gly Ile Phe  
 85 90 95  
 Arg Gln Val Asp Val Leu Ile Asp Thr Cys Gln Gly Asp Gly Ala Leu  
 100 105 110  
 Pro Asn Gly Leu Asp Val Thr Phe Glu Val Thr Glu Leu Arg Arg Leu  
 115 120 125  
 Thr Gly Ser Tyr Asn Thr Met Val Gly Asn Asn Glu Gly Ser Met Val  
 130 135 140  
 Leu Gly Leu Lys Leu Pro Asn Leu Leu Gly Arg Ala Glu Lys Val Thr  
 145 150 155 160  
 Phe Gln Phe Ser Tyr Gly Thr Lys Glu Thr Ser Tyr Gly Leu Ser Phe  
 165 170 175  
 Phe Lys Pro Arg Pro Gly Asn Phe Glu Arg Asn Phe Ser Val Asn Leu  
 180 185 190  
 Tyr Lys Val Thr Gly Gln Phe Pro Trp Ser Ser Leu Arg Glu Thr Asp  
 195 200 205  
 Arg Gly Met Ser Ala Glu Tyr Ser Phe Pro Ile Trp Lys Thr Ser His  
 210 215 220  
 Thr Val Lys Trp Glu Gly Val Trp Arg Glu Leu Gly Cys Leu Ser Arg  
 225 230 235 240  
 Thr Ala Ser Phe Ala Val Arg Lys Glu Ser Gly His Ser Leu Lys Ser  
 245 250 255  
 Ser Leu Ser His Ala Met Val Ile Asp Ser Arg Asn Ser Ser Ile Leu  
 260 265 270  
 Pro Arg Arg Gly Ala Leu Leu Lys Val Asn Gln Glu Leu Ala Gly Tyr  
 275 280 285  
 Thr Gly Gly Asp Val Ser Phe Ile Lys Glu Asp Phe Glu Leu Gln Leu  
 290 295 300  
 Asn Lys Gln Leu Ile Phe Asp Ser Val Phe Ser Ala Ser Phe Trp Gly

```
<210> 4629
<211> 706
<212> DNA
<213> Homo sapiens
```

<210> 4630

<211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 4630  
 Met Val Asn Arg Glu Arg Glu Gly Gly Pro Trp Lys Cys Val Trp Val  
 1 5 10 15  
 Leu Gly Gly Pro Pro Glu Trp Gly Glu Leu Arg Ala Asp Ser Ser Ser  
 20 25 30  
 Arg Asp Gln Gly Ala Leu Ser Leu Ser Arg Met Gly Arg Asp Ala Ser  
 35 40 45  
 Ser Trp Ala Leu Arg Val Ser Val Phe Pro Gln Ile Gly Lys Met Arg  
 50 55 60  
 Gly Arg Gly Gly Tyr Trp Gly Gln Ala Ser Ala Gln Pro Trp Val Leu  
 65 70 75 80  
 Leu Glu Pro Gly Leu Glu Pro Glu Val Gly Arg Val Ser Lys Leu Ser  
 85 90 95  
 Ser Trp Ile Pro Ile Cys Arg Thr Ala Pro Arg Thr Arg Ser Gly Val  
 100 105 110  
 Arg Ala His Pro Leu Ala Arg Ile Leu Gly Ser Leu Gly His Lys Ala  
 115 120 125  
 Gly Gln Gly Thr Arg Asp Pro Pro Thr Gln Glu Thr  
 130 135 140

<210> 4631  
 <211> 2756  
 <212> DNA  
 <213> Homo sapiens

<400> 4631  
 cggccgcggg agcgctttgg gaaggcgacac ggggcgaaga tggcggcgga gcgacaggag  
 60  
 gcgctgaggg agttcgtggc ggtgacgggc gccgaggagg accgggcccc cttctttctc  
 120  
 gagtcggccg gctgggactt gcagatcgcg ctagcgagct tttatgagga cggaggggat  
 180  
 gaagacattg tgaccatttc gcaggcaacc cccagttcag tgtccagagg cacagcccc  
 240  
 agtgataata gagtgacatc cttcagagac ctcattcatg accaagatga agatgaggag  
 300  
 gaagaggaag gccagaggag caggttttat gctgggggct cagagagaag tggacagcag  
 360  
 attgttggcc ctcccaggaa gaaaagtccc aacgagctgg tggatgatct ctttaaagg  
 420  
 gccaaagagc atggagctgt agctgtggag cgagtgaacca agagccctgg agagaccagt  
 480  
 aaaccgagac catttgcagg aggtggctac cgccttgggg cagcaccaga ggaagagtct  
 540  
 gcctatgtgg caggagaaaa gaggcagcat tccagccaag atgttcatgt agtattgaaa  
 600  
 ctctggaaga gtggattcag cctggataat ggagaactca gaagctacca agaccatcc  
 660  
 aatgccagcgt ttctggagtc tatccgcaga ggggaggtgc cagcagagct tcggaggcta  
 720



gctcacggtg gacaggtgaa cttggatatg gaggaccatc gggacgagga ctttgtgaag  
780  
cccaaaggag ccttcaaagc cttcactggc gagggtcaga aactgggcag cactgcccc  
840  
caggtgttga gtaccagctc tccagcccaa caggcagaaa atgaagccaa agccagctct  
900  
tccatcttaa tgcacgaatc agagcctacc acaaacatcc aaattcggct tgcagacggc  
960  
gggaggctgg tgcagaaatt taaccacagc cacaggatca gcgacatccg actcttcatc  
1020  
gtggatgccc ggccagccat ggctgccacc agctttatcc tcatgactac tttcccgaa  
1080  
aaagagctgg ctgatgagag ccagaccctg aaggaagcca acctgctcaa tgctgtcatc  
1140  
gtgcagcggc taacataacc gccagccag ctgcctggcc tccctcctgt gtttcccatg  
1200  
gccagtggcc atgccccatg gggatcgccc ctcttgcccc cttgtgcata ccagcagtc  
1260  
cagtgcacg tctcctccat agctctgggt tcttagatct tgggtggacg tttgttttct  
1320  
ccttagttgc atttctggg tttttgtgat gatcaatgga ctttaatgaa aaaaaaata  
1380  
aaaacaacca aaaaaattga aggaatatca ccagcatgtt gtacggaaac tctcccactg  
1440  
aagcaggctt taattgcttt aaaattatat ttatcttggg gcctgtggga ggaaacttcc  
1500  
ttccatcttc tctgcataaa aacttgtggc acacaatgct tattcactag tgtgtccac  
1560  
ccgccagccc cacagatgac tggaggaagg aggggaaatg tgtagaaaga ggcttcgcca  
1620  
ccacttgctt ccacgagaat atgtcacttg ccagataaa actgggcggc agccagagtt  
1680  
ccctgaagtg ggaagtcaga gctccatgca cacagtgtct tcagaagggtg aaaataaata  
1740  
tttccctgtg ctcttttac tcaaccctg gggatatctaa tcttgccagg tcttgccag  
1800  
ttgagattct gttccacctg cctgcctggc cctttcctcc attaccatcc agactgctcg  
1860  
cctcctgggg attctcaggg gctccattat ggcttgattt actccacgtg cagaagtctt  
1920  
gagtggacct aggaggtagg tgggatattt ttttccacta ggatacagct catgccaaac  
1980  
catcctaagt gagttcagaa tcagggtatc ttgccctata agataaacag tcaaaatgcc  
2040  
accgagctgt tcattagtga tgtgtggcaa atcaaataca ctgttgaaga aggggtgagt  
2100  
tttctgtgct acaagcacct gtcactgttg gtacttgacg gaggttctg ctgggtatgt  
2160  
tttgggaagt agtgtcacta cttggctttg cttagcaggt tctgcttcac acttgttctt  
2220  
tgacctgctg acttgtgact tgcagaaaca taggcagtag tcctagcctg gtaaagaccc  
2280  
tccaccacc ctataagttt gattgctatg caggtttggg agaggaggcc tattgggctc  
2340

ttggatggaa ccctttcccg tattaacaa accagagaca gaatcagtgc tgactcagga  
 2400  
 tctcctgggt tggaatcgta atgtgcctca atcctctttc caagcaggcc tcaccagtct  
 2460  
 ctttctcttt cctgcttcac cctgcaatg agccaagaac caacactaca tccacctaga  
 2520  
 actgcagaag ggcttgtggg ttcaaccaag acccatcctg agcaaggac ttggcttggg  
 2580  
 gcttttgatc ccaaagttcc cacaccggca gtggcctgct ggggcaatgg catctgtcac  
 2640  
 ggtgttttct ccagcaggtg gagattatgg aacctacata tgggtctgga aaaactgtac  
 2700  
 actgttgatc ccttgacat taaaaaccag aatgaggaca aaaaaaaaaa aaaaaa  
 2756

<210> 4632

<211> 372

<212> PRT

<213> Homo sapiens

<400> 4632

Met	Ala	Ala	Glu	Arg	Gln	Glu	Ala	Leu	Arg	Glu	Phe	Val	Ala	Val	Thr
1			5						10				15		
Gly	Ala	Glu	Glu	Asp	Arg	Ala	Arg	Phe	Phe	Leu	Glu	Ser	Ala	Gly	Trp
		20					25					30			
Asp	Leu	Gln	Ile	Ala	Leu	Ala	Ser	Phe	Tyr	Glu	Asp	Gly	Gly	Asp	Glu
		35				40						45			
Asp	Ile	Val	Thr	Ile	Ser	Gln	Ala	Thr	Pro	Ser	Ser	Val	Ser	Arg	Gly
	50					55					60				
Thr	Ala	Pro	Ser	Asp	Asn	Arg	Val	Thr	Ser	Phe	Arg	Asp	Leu	Ile	His
65				70						75				80	
Asp	Gln	Asp	Glu	Asp	Glu	Glu	Glu	Glu	Glu	Gly	Gln	Arg	Ser	Arg	Phe
			85					90					95		
Tyr	Ala	Gly	Gly	Ser	Glu	Arg	Ser	Gly	Gln	Gln	Ile	Val	Gly	Pro	Pro
		100					105					110			
Arg	Lys	Lys	Ser	Pro	Asn	Glu	Leu	Val	Asp	Asp	Leu	Phe	Lys	Gly	Ala
		115					120					125			
Lys	Glu	His	Gly	Ala	Val	Ala	Val	Glu	Arg	Val	Thr	Lys	Ser	Pro	Gly
	130					135					140				
Glu	Thr	Ser	Lys	Pro	Arg	Pro	Phe	Ala	Gly	Gly	Gly	Tyr	Arg	Leu	Gly
145				150					155					160	
Ala	Ala	Pro	Glu	Glu	Glu	Ser	Ala	Tyr	Val	Ala	Gly	Glu	Lys	Arg	Gln
			165					170						175	
His	Ser	Ser	Gln	Asp	Val	His	Val	Val	Leu	Lys	Leu	Trp	Lys	Ser	Gly
		180					185						190		
Phe	Ser	Leu	Asp	Asn	Gly	Glu	Leu	Arg	Ser	Tyr	Gln	Asp	Pro	Ser	Asn
		195					200					205			
Ala	Gln	Phe	Leu	Glu	Ser	Ile	Arg	Arg	Gly	Glu	Val	Pro	Ala	Glu	Leu
	210					215					220				
Arg	Arg	Leu	Ala	His	Gly	Gly	Gln	Val	Asn	Leu	Asp	Met	Glu	Asp	His
225				230						235				240	
Arg	Asp	Glu	Asp	Phe	Val	Lys	Pro	Lys	Gly	Ala	Phe	Lys	Ala	Phe	Thr
			245						250					255	
Gly	Glu	Gly	Gln	Lys	Leu	Gly	Ser	Thr	Ala	Pro	Gln	Val	Leu	Ser	Thr

<210> 4634

<211> 242  
 <212> PRT  
 <213> Homo sapiens

<400> 4634  
 Met Leu Gln Glu Leu Asp Lys Thr Pro Gly Glu Ser Leu His Gly Tyr  
 1 5 10 15  
 Arg Ile Cys Ile Gln Ala Ile Leu Gln Asp Lys Pro Lys Ile Ala Thr  
 20 25 30  
 Ala Asn Leu Gly Lys Phe Leu Glu Leu Arg Ser His Gln Ser Arg  
 35 40 45  
 Pro Ala Lys Cys Leu Thr Ile Met Trp Ala Leu Gly Gln Ala Gly Phe  
 50 55 60  
 Ala Asn Leu Thr Glu Gly Leu Lys Val Trp Leu Gly Ile Met Leu Pro  
 65 70 75 80  
 Val Leu Gly Ile Lys Ser Leu Ser Pro Phe Ala Ile Thr Tyr Leu Asp  
 85 90 95  
 Arg Leu Leu Leu Met His Pro Asn Leu Thr Lys Gly Phe Gly Met Ile  
 100 105 110  
 Gly Pro Lys Asp Phe Phe Pro Leu Leu Asp Phe Ala Tyr Met Pro Asn  
 115 120 125  
 Asn Ser Leu Thr Pro Ser Leu Gln Glu Gln Leu Cys Gln Leu Tyr Pro  
 130 135 140  
 Arg Leu Lys Val Leu Ala Phe Gly Ala Lys Pro Asp Ser Thr Leu His  
 145 150 155 160  
 Thr Tyr Phe Pro Ser Phe Leu Ser Arg Ala Thr Pro Ser Cys Pro Pro  
 165 170 175  
 Glu Met Lys Lys Glu Leu Leu Ser Ser Leu Thr Glu Cys Leu Thr Val  
 180 185 190  
 Asp Pro Leu Ser Ala Ser Val Trp Arg Gln Leu Tyr Pro Lys His Leu  
 195 200 205  
 Ser Gln Ser Ser Leu Leu Leu Glu His Leu Leu Ser Ser Trp Glu Gln  
 210 215 220  
 Ile Pro Lys Lys Val Gln Lys Ser Leu Gln Glu Thr Ile Gln Ser Leu  
 225 230 235 240  
 Lys Leu

<210> 4635  
 <211> 384  
 <212> DNA  
 <213> Homo sapiens

<400> 4635  
 acgcgtgaag ggtgatgtta ggaggaccag tgtgcagcta tgagctagga ggctgcccag  
 60  
 ttacaagagt cctgggtcag cccagaaagc ttttctccat tgggtggggg aaggaggtga  
 120  
 agtggggccc gaggaggaag gccggtggtg tgtgggcaga gccagccagt ggtggccttc  
 180  
 ctctcccgga agatgagttt tgtagcccag gtgtttgcac actcacactt gctcactccc  
 240  
 tcacacacaa aacctcact ctttgctttt tctggggaga gggaggccac tggcagaagc  
 300

gcctaccctg gccacagtca gttcccatc tcattttcta agaattttat cacaaaacag  
 360  
 tttgtcttga ggctgagatg gggg  
 384

<210> 4636  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 4636  
 Met Leu Gly Gly Pro Val Cys Ser Tyr Glu Leu Gly Gly Cys Pro Val  
 1 5 10 15  
 Thr Arg Val Leu Gly Gln Pro Arg Lys Leu Phe Ser Ile Gly Trp Gly  
 20 25 30  
 Lys Glu Val Lys Trp Gly Pro Arg Arg Lys Ala Gly Gly Val Trp Ala  
 35 40 45  
 Glu Pro Ala Ser Gly Gly Leu Pro Pro Pro Glu Asp Glu Phe Cys Ser  
 50 55 60  
 Pro Gly Val Cys Thr Leu Thr Leu Ala His Ser Leu Thr His Lys Thr  
 65 70 75 80  
 Leu Thr Leu Cys Phe Phe Trp Gly Glu Gly Gly His Trp Gln Lys Arg  
 85 90 95  
 Leu Pro Trp Pro Gln Ser Val Pro Ile Leu Ile Phe  
 100 105

<210> 4637  
 <211> 2162  
 <212> DNA  
 <213> Homo sapiens

<400> 4637  
 nnggcgcggg cgggctgctg aggtggctgt cgccggctcc gagctgcggc tccccgggcc  
 60  
 gagccccga tggaggccga ggccgcggac gctcccccg gcggggttga gtcggcgctc  
 120  
 agctgcttct ctttcaacca ggaactgcaca tccctagcaa ttggaactaa agccgggtat  
 180  
 aagctgtttt ctctgagttc tgtggagcag ctggatcaag tccacggaag caatgaaatc  
 240  
 ccggacgtct acatcgtgga gcgcctcttc tccagcagcc tgggtggtggt agtcagtcac  
 300  
 acaaaaccac ggcagatgaa cgtgtatcac ttcaagaaag gcacagagat ctgtaattac  
 360  
 agctactcca gcaacatctt gtccataagg ctgaaccggc aaaggctgct ggtttgccca  
 420  
 gaagagtcca tttatattca caacattaaa gacatgaagc tgttgaagac cctcctggat  
 480  
 attcctgcaa acccaacagg tctatgtgct ctctctatca accattccaa ttcttacctg  
 540  
 gcctatcctg gaagcctgac ttcaggggag attgtgcttt atgatggaaa ctccctgaaa  
 600  
 acagtctgca ctattgctgc ccatgagggg aactagctg ccatcacctt caatgcctca  
 660

ggctccaaac tagcaagtgc gtctgaaaaa ggcacagtca tccgggtggt ctctgtccct  
720  
gatgggcaaa agctctatga gttccggaga gggatgaaaa ggtatgtgac aatcagctct  
780  
ctagtgttca gtatggattc acaattcctc tgcgcctcca gtaacaccga gacggtacac  
840  
atcttcaagc tggaacaggt caccaacagt cgaccagaag agccttcgac ctggagtggc  
900  
tacatgggaa agatgtttat ggctgctacc aactacctcc ctaccaggt gtcagacatg  
960  
atgcatcagg acagggcttt tgccactgca cgcttgaact tctccggaca gaggaacatc  
1020  
tgtacctct caacgatcca gaagttgcca cggctgctag ttgcgtcatc cagtggacac  
1080  
ctttatatgt acaatttgga tcctcaggat ggaggagagt gtgtcttaac caaaacccac  
1140  
agcttgcttg gctcaggaac aacagaagag aataaagaaa atgacctcag accttcctta  
1200  
cctcagtctt atgcagcgac cgtagccaga ccaagtgcac cttcagcctc cacggtgcca  
1260  
ggttattctg aggacggcgg ggcgctgcga ggagaagtta ttcctgaaca tgagtttgcg  
1320  
acgggaccag tgtgtcttga tgatgagaat gagtttcctc ctataatctt gtgccgtgga  
1380  
aatcagaagg gcaaaacgaa gcagtcatga tgagaagcac acctcagaaa tcaggacatc  
1440  
ccccctatca ggtggttttg gagaaaacaa ggaaggcgga agaattggagt gcaatttgtg  
1500  
gagcagaaaag gggggcagga atccccgggtg ctccactgct taaaccacag gacctggta  
1560  
actcctcacc aagcttccca cgaccctggt tgccaatggg cgcgggagac attgtataca  
1620  
catcatgcta tttaaaatac gttcaaacta tagtgtaaata gctaattaac catattggta  
1680  
tataaccgga attttatatt aaaaggggcc tcctttttta atatatgccg tgtaaaaaat  
1740  
gtacttatag gaacatctct ttgaattgta tttcttgat attacatact tagagagaga  
1800  
ctcttttagc caggcaaagt cttttttggc tgtggctgga ataaatcatt tattacttgg  
1860  
gagtcccat ttggacacta ataataaaat catggcaatg catttttgag gtttttatat  
1920  
atttttttgt ttccttggtg ttatagggga caggaggaac tctttaactt cttttaaatg  
1980  
cagtcatttc acccttaaaa ggagaggaag gggattgggc cacagactta tccatggact  
2040  
cgtctgctct gagatctgga aaacgaccta actttggtct aaatctgtgc tcctcaaggc  
2100  
attgtttgat agaaatgtag gatttcagga tctactcgag ccctactgag acggaatccg  
2160  
ga  
2162

&lt;210&gt; 4638

<211> 446  
 <212> PRT  
 <213> Homo sapiens

<400> 4638

```

Met Glu Ala Glu Ala Ala Asp Ala Pro Pro Gly Gly Val Glu Ser Ala
 1          5          10          15
Leu Ser Cys Phe Ser Phe Asn Gln Asp Cys Thr Ser Leu Ala Ile Gly
          20          25          30
Thr Lys Ala Gly Tyr Lys Leu Phe Ser Leu Ser Ser Val Glu Gln Leu
          35          40          45
Asp Gln Val His Gly Ser Asn Glu Ile Pro Asp Val Tyr Ile Val Glu
          50          55          60
Arg Leu Phe Ser Ser Ser Leu Val Val Val Val Ser His Thr Lys Pro
          65          70          75          80
Arg Gln Met Asn Val Tyr His Phe Lys Lys Gly Thr Glu Ile Cys Asn
          85          90          95
Tyr Ser Tyr Ser Ser Asn Ile Leu Ser Ile Arg Leu Asn Arg Gln Arg
          100          105          110
Leu Leu Val Cys Leu Glu Glu Ser Ile Tyr Ile His Asn Ile Lys Asp
          115          120          125
Met Lys Leu Leu Lys Thr Leu Leu Asp Ile Pro Ala Asn Pro Thr Gly
          130          135          140
Leu Cys Ala Leu Ser Ile Asn His Ser Asn Ser Tyr Leu Ala Tyr Pro
          145          150          155          160
Gly Ser Leu Thr Ser Gly Glu Ile Val Leu Tyr Asp Gly Asn Ser Leu
          165          170          175
Lys Thr Val Cys Thr Ile Ala Ala His Glu Gly Thr Leu Ala Ala Ile
          180          185          190
Thr Phe Asn Ala Ser Gly Ser Lys Leu Ala Ser Ala Ser Glu Lys Gly
          195          200          205
Thr Val Ile Arg Val Phe Ser Val Pro Asp Gly Gln Lys Leu Tyr Glu
          210          215          220
Phe Arg Arg Gly Met Lys Arg Tyr Val Thr Ile Ser Ser Leu Val Phe
          225          230          235          240
Ser Met Asp Ser Gln Phe Leu Cys Ala Ser Ser Asn Thr Glu Thr Val
          245          250          255
His Ile Phe Lys Leu Glu Gln Val Thr Asn Ser Arg Pro Glu Glu Pro
          260          265          270
Ser Thr Trp Ser Gly Tyr Met Gly Lys Met Phe Met Ala Ala Thr Asn
          275          280          285
Tyr Leu Pro Thr Gln Val Ser Asp Met Met His Gln Asp Arg Ala Phe
          290          295          300
Ala Thr Ala Arg Leu Asn Phe Ser Gly Gln Arg Asn Ile Cys Thr Leu
          305          310          315          320
Ser Thr Ile Gln Lys Leu Pro Arg Leu Leu Val Ala Ser Ser Ser Gly
          325          330          335
His Leu Tyr Met Tyr Asn Leu Asp Pro Gln Asp Gly Gly Glu Cys Val
          340          345          350
Leu Ile Lys Thr His Ser Leu Leu Gly Ser Gly Thr Thr Glu Glu Asn
          355          360          365
Lys Glu Asn Asp Leu Arg Pro Ser Leu Pro Gln Ser Tyr Ala Ala Thr
          370          375          380
Val Ala Arg Pro Ser Ala Ser Ser Ala Ser Thr Val Pro Gly Tyr Ser

```

385		390		395		400									
Glu	Asp	Gly	Gly	Ala	Leu	Arg	Gly	Glu	Val	Ile	Pro	Glu	His	Glu	Phe
				405					410					415	
Ala	Thr	Gly	Pro	Val	Cys	Leu	Asp	Asp	Glu	Asn	Glu	Phe	Pro	Pro	Ile
			420					425					430		
Ile	Leu	Cys	Arg	Gly	Asn	Gln	Lys	Gly	Lys	Thr	Lys	Gln	Ser		
		435					440					445			

<210> 4639  
 <211> 1007  
 <212> DNA  
 <213> Homo sapiens

<400> 4639  
 nntttttttt aaaacaaaac atttttattta atgcagaaat tctaaggtac aaaaacattt  
 60  
 tgtaaagtgc agctgtgata tactttcacc tagttacaga gttatgtaca aatcaagtca  
 120  
 ttaacatttt caatgtcaaa aatacagcac gctgttaaga gttctgtcag tgctcattat  
 180  
 ccactagat ccacaaaagg gcaaactcaa agatgaaaca aaggcaacgc catcaataac  
 240  
 caccatattc cacaggcttt ctcccctagg acgtactaac agggagtctt cacagggaaa  
 300  
 aattctcttt taaaaaatta acagtaaaaa taggagttac ttactatcta gatgaacaca  
 360  
 attggttttc acaaaagctt ttgctgctgt ctggactcac catgcttttt tcttgagaga  
 420  
 aacataccaa actttttgtt gttgttggtg agacggagtt tcgctcttgt tgcccaggct  
 480  
 agagtgcatt ggctgtgatc cagctcactg caacctccgc ctcccaggct caagcgattc  
 540  
 tcccacctca gcctcccaag tagctaggac tacagggtgtg tgccaccaca ccagctaat  
 600  
 tttnnctgta gagacggtnn ttcacatgt tgcccagact ggtctcaaat tcttgggctc  
 660  
 aagcaatcta acccccttgg cctcccaaag tgctgggata acagggtgtga gccaccatac  
 720  
 ccagctacaa agactctttt ccacataag gtcacattca cagggtccaa gtagacatct  
 780  
 cttttcaggg gaccacagtt caaccacta caactaagca gtgccacact tttcttcagg  
 840  
 tgggtgtggc ttattggatg tttcattttt aggtgacctt ggccccttgc tgaagaaggg  
 900  
 atagacccat gccctctgca gaagggtga ggtttaggca aggccaatc cttcccctgt  
 960  
 ctcatggcat taacgttcct atgcccggta ggtgtcattc tgctagc  
 1007

<210> 4640  
 <211> 71  
 <212> PRT  
 <213> Homo sapiens



&lt;400&gt; 4640

```

Met Asn Thr Ile Gly Phe His Lys Ser Phe Cys Cys Cys Leu Asp Ser
 1           5           10          15
Pro Cys Phe Phe Leu Glu Arg Asn Ile Pro Asn Phe Leu Leu Leu Leu
      20           25           30
Leu Arg Arg Ser Phe Ala Leu Val Ala Gln Ala Arg Val Gln Trp Arg
      35           40           45
Asp Leu Ser Ser Leu Gln Pro Pro Pro Arg Leu Lys Arg Phe Ser
      50           55           60
His Leu Ser Leu Pro Ser Ser
65           70

```

&lt;210&gt; 4641

&lt;211&gt; 1873

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4641

```

nngggatttc gcgggaaatc ccggaagtga cagctttggg ggtttgctgc tggctctgac
60
tcccgtcctg cgatgggttg cgacggggga acaatcccca agaggcatga actggtgaag
120
gggccgaaga aggttgagaa ggtcgacaaa gatgctgaat tagtggccca atggaactat
180
tgtactctaa gtcaggaaat attaagacga ccaatagttg cctgtgaact tggcagactt
240
tataacaaag atgccgtcat tgaatttctc ttggacaaat ctgcagaaaa ggctcttggg
300
aaggcagcat ctcacattaa aagcattaa aatgtgacag agctgaagct ttctgataat
360
cctgcctggg aaggggataa aggaaacact aaagggtgaca agcacgatga cctccagcgg
420
gcgcgtttca tctgccccgt tgtgggcctg gagatgaacg gccgacacag gttctgcttc
480
cttcggtgct gcggctgtgt gttttctgag cgagccttga aagagataaa agcgggaagt
540
tgccacacgt gtggggctgc cttccaggag gatgatgtca tcatgctcaa tggcaccaag
600
gaggatgtgg acgtgctgaa gacaaggatg gaggagagaa ggctgagagc gaagctggaa
660
aagaaaacaa agaaacccaa ggcagcagag tctgtttcaa aaccagatgt cagtgaagaa
720
gccccagggc catcaaaagt taagacaggg aagcctgaag aagccagcct tgattctaga
780
gagaagaaaa ccaacttggc tcccaaaagc acagcaatga atgagagctc ttctggaaaa
840
gctgggaagc ctccgtgtgg agccacaaag aggtccatcg ctgacagtga agaatcggag
900
gcctacaagt ccctctttac cactcacagc tccgccaagc gctccaagga ggagtctgcc
960
cactgggtca cccacacgtc ctactgcttc tgaagcccgc actgccaccg ctctgcccc
1020
agaaggttgt ttagtttcca cgtaggcagg tcgctttgtg cctctgagtg cgctgctgtg
1080

```

tgtttctctct atagttctgt gtcataaagc tgtcctggcc agccttcaag ctggtgtggc  
 1140  
 cactcttgat gtgaggcgtg tcggttccag gggggacatg ggaggggctg cacagtggcc  
 1200  
 cgaggtcatg cttgcttcca cctgcagggtg catttggtcc tttccatggc caggaagccc  
 1260  
 tgtgggctgc actttttatg cttgcagtaa caagagactc cagagtcctc accggtgcag  
 1320  
 agttggcaca tattaattaa ctaaaattct aatgatcttg ctaccagcaa taaatcaagt  
 1380  
 aggccaaagtg aaactgggct ttaaaaagga tggatttcaa atacactgtg cccactagaa  
 1440  
 gcttcgaagg gcctcgtccc tctgctacag ccctgggagg agccaggatc cttgttggtc  
 1500  
 tagctaaata ctgttagggg agtgtgcccc atctcatcat ttcgaagata gcagagtcac  
 1560  
 agttggggcac ccggtgattg gggtcaaaaa taaagctggt ctgcctcttc aaaaaaaaaa  
 1620  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa tttttttttt  
 1680  
 ggcccccccc aaaaaaaccc cccaccccccc ccgcggcggg gtgttttttt ccccgcggcc  
 1740  
 gacccccctc ccccccggg ggggcgcggg ttggggggcc ccccccggc cccccgtgt  
 1800  
 ggggggggtgg ggggttggtt tttttttttg ttgaagtgtt tttccaaaaa aaaacaaaaa  
 1860  
 aaaaaagaga ggg  
 1873

&lt;210&gt; 4642

&lt;211&gt; 306

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4642

Met	Gly	Cys	Asp	Gly	Thr	Ile	Pro	Lys	Arg	His	Glu	Leu	Val	Lys
1				5				10					15	
Gly	Pro	Lys	Lys	Val	Glu	Lys	Val	Asp	Lys	Asp	Ala	Glu	Leu	Val
			20					25					30	Ala
Gln	Trp	Asn	Tyr	Cys	Thr	Leu	Ser	Gln	Glu	Ile	Leu	Arg	Arg	Pro
		35					40					45		Ile
Val	Ala	Cys	Glu	Leu	Gly	Arg	Leu	Tyr	Asn	Lys	Asp	Ala	Val	Ile
	50					55					60			Glu
Phe	Leu	Leu	Asp	Lys	Ser	Ala	Glu	Lys	Ala	Leu	Gly	Lys	Ala	Ala
65					70				75					80
His	Ile	Lys	Ser	Ile	Lys	Asn	Val	Thr	Glu	Leu	Lys	Leu	Ser	Asp
			85					90					95	Asn
Pro	Ala	Trp	Glu	Gly	Asp	Lys	Gly	Asn	Thr	Lys	Gly	Asp	Lys	His
		100					105					110		Asp
Asp	Leu	Gln	Arg	Ala	Arg	Phe	Ile	Cys	Pro	Val	Val	Gly	Leu	Glu
		115					120					125		Met
Asn	Gly	Arg	His	Arg	Phe	Cys	Phe	Leu	Arg	Cys	Cys	Gly	Cys	Val
	130					135					140			Phe
Ser	Glu	Arg	Ala	Leu	Lys	Glu	Ile	Lys	Ala	Glu	Val	Cys	His	Thr
														Cys

145                      150                      155                      160  
 Gly Ala Ala Phe Gln Glu Asp Asp Val Ile Met Leu Asn Gly Thr Lys  
                                  165                      170                      175  
 Glu Asp Val Asp Val Leu Lys Thr Arg Met Glu Glu Arg Arg Leu Arg  
                                  180                      185                      190  
 Ala Lys Leu Glu Lys Lys Thr Lys Lys Pro Lys Ala Ala Glu Ser Val  
                                  195                      200                      205  
 Ser Lys Pro Asp Val Ser Glu Glu Ala Pro Gly Pro Ser Lys Val Lys  
                                  210                      215                      220  
 Thr Gly Lys Pro Glu Glu Ala Ser Leu Asp Ser Arg Glu Lys Lys Thr  
 225                      230                      235                      240  
 Asn Leu Ala Pro Lys Ser Thr Ala Met Asn Glu Ser Ser Ser Gly Lys  
                                  245                      250                      255  
 Ala Gly Lys Pro Pro Cys Gly Ala Thr Lys Arg Ser Ile Ala Asp Ser  
                                  260                      265                      270  
 Glu Glu Ser Glu Ala Tyr Lys Ser Leu Phe Thr Thr His Ser Ser Ala  
                                  275                      280                      285  
 Lys Arg Ser Lys Glu Glu Ser Ala His Trp Val Thr His Thr Ser Tyr  
                                  290                      295                      300  
 Cys Phe  
 305

<210> 4643  
 <211> 1125  
 <212> DNA  
 <213> Homo sapiens

<400> 4643  
 nntgaattcc gctggaagtc cagcctctat tgaggatttg atgcgacggc ctcacggggc  
 60  
 tttggagggtg aaagaggccc agagtagaga gagagagaga ccgacgtaca cgggatggct  
 120  
 acgggaacgc gctatgccgg gaaggtggtg gtcgtgaccg ggggcgggcg cggcatcgga  
 180  
 gctgggatcg tgcgcgcctt cgtggacagc ggggcccag tggttatctg cgacaaggat  
 240  
 gagtctgggg gccgggccct ggagcaggag ctccctggag ctgtctttat cctctgtgat  
 300  
 gtgactcagg aagatgatat gaagaccctg gtttctgaga ccatccgccg atttggccgc  
 360  
 ctggattgtg ttgtcaacaa cgctggccac caccacccc cacagaggcc tgaggagacc  
 420  
 tctgccagg gattccgcca gctgctggag ctgaacctac tggggacgta caccttgacc  
 480  
 aagctcgccc tcccctacct gcggaagagt caagggaatg tcatcaacat ctccagcctg  
 540  
 gtgggggcaa tgggccaggc ccaggcagtt ccctatgtgg ccaccaaggg ggcagtaaca  
 600  
 gccatgacca aagctttggc cctggatgaa agtccatatg gtgtccgagt caactgtatc  
 660  
 tccccaggaa acatctggac cccgctgtgg gaggagctgg cagccttaat gccagaccct  
 720  
 agggccacaa tccgagaggg catgctggcc cagccactgg gccgcatggg ccagcccgc  
 780

gaggtcgggg ctgcggcagt gttcctggcc tccgaagcca acttctgcac gggcattgaa  
 840  
 ctgctcgtga cgggggggtgc agagctgggg tacgggtgca aggccagtcg gagcaccccc  
 900  
 gtggacgccc ccgatatccc ttcttgattt ctctcatttc tacttggggc ccccttccta  
 960  
 ggactctccc accccaaact ccaacctgta tcagatgcag cccccaagcc cttagactct  
 1020  
 aagcccagtt agcaaggtgc cgggtcaccc tgcaggttcc cataaaaacg atttgagccc  
 1080  
 agaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa  
 1125

<210> 4644  
 <211> 270  
 <212> PRT  
 <213> Homo sapiens

<400> 4644  
 Met Ala Thr Gly Thr Arg Tyr Ala Gly Lys Val Val Val Val Thr Gly  
 1 5 10 15  
 Gly Gly Arg Gly Ile Gly Ala Gly Ile Val Arg Ala Phe Val Asp Ser  
 20 25 30  
 Gly Ala Arg Val Val Ile Cys Asp Lys Asp Glu Ser Gly Gly Arg Ala  
 35 40 45  
 Leu Glu Gln Glu Leu Pro Gly Ala Val Phe Ile Leu Cys Asp Val Thr  
 50 55 60  
 Gln Glu Asp Asp Met Lys Thr Leu Val Ser Glu Thr Ile Arg Arg Phe  
 65 70 75 80  
 Gly Arg Leu Asp Cys Val Val Asn Asn Ala Gly His His Pro Pro Pro  
 85 90 95  
 Gln Arg Pro Glu Glu Thr Ser Ala Gln Gly Phe Arg Gln Leu Leu Glu  
 100 105 110  
 Leu Asn Leu Leu Gly Thr Tyr Thr Leu Thr Lys Leu Ala Leu Pro Tyr  
 115 120 125  
 Leu Arg Lys Ser Gln Gly Asn Val Ile Asn Ile Ser Ser Leu Val Gly  
 130 135 140  
 Ala Ile Gly Gln Ala Gln Ala Val Pro Tyr Val Ala Thr Lys Gly Ala  
 145 150 155 160  
 Val Thr Ala Met Thr Lys Ala Leu Ala Leu Asp Glu Ser Pro Tyr Gly  
 165 170 175  
 Val Arg Val Asn Cys Ile Ser Pro Gly Asn Ile Trp Thr Pro Leu Trp  
 180 185 190  
 Glu Glu Leu Ala Ala Leu Met Pro Asp Pro Arg Ala Thr Ile Arg Glu  
 195 200 205  
 Gly Met Leu Ala Gln Pro Leu Gly Arg Met Gly Gln Pro Ala Glu Val  
 210 215 220  
 Gly Ala Ala Ala Val Phe Leu Ala Ser Glu Ala Asn Phe Cys Thr Gly  
 225 230 235 240  
 Ile Glu Leu Leu Val Thr Gly Gly Ala Glu Leu Gly Tyr Gly Cys Lys  
 245 250 255  
 Ala Ser Arg Ser Thr Pro Val Asp Ala Pro Asp Ile Pro Ser  
 260 265 270

<210> 4645  
<211> 1725  
<212> DNA  
<213> Homo sapiens

<400> 4645  
nggctctcgc ctaccggggg cttctctcac cgggactcgg gactcccggg aagtggaccg  
60  
gcagaagagg gggctagcta gctgtctctg cggaccaggg agacccccgc gccccccggg  
120  
tgtgaggcgg cctcacaggg ccgggtgggc tggcgagccg acgcggcggc ggaggaggct  
180  
gtgaggagtg tgtggaacag gaccggggac agaggaaacca tggctccgca gaacctgagc  
240  
accttttgcc tgttgctgct atacctcatc ggggcgggtga ttgccggacg agatttctat  
300  
aagatcttgg gggtgccctg aagtgcctct ataaaggata ttaaaaaggc ctataggaaa  
360  
ctagccctgc agcttcatcc cgaccggaac cctgatgatc cacaagccca ggagaaattc  
420  
caggatctgg gtgctgctta tgaggttctg tcagatagtg agaaacggaa acagtacgat  
480  
acttatggtg aagaaggatt aaaagatggg catcagagct cccatggaga ctttttttca  
540  
cacttctttg gggatttttg tttcatgttt ggaggaaccc ctctcagca agacagaaat  
600  
attccaagag gaagtgatat tattgtagat ctagaagtca ctttggaaga agtatatgca  
660  
ggaaattttg tggaagtagt tagaaacaaa cctgtggcaa ggcaggctcc tggcaaacgg  
720  
aagtgcaatt gtcggcaaga gatgcggacc acccagctgg gccctggggc cttccaaatg  
780  
accaggagg tggtctgcga cgaatgcctt aatgtcaaac tagtgaatga agaacgaacg  
840  
ctggaagtag aaatagagcc tggggtgaga gacggcatgg agtaccctt tattggagaa  
900  
ggtgagcctc acgtggatgg ggagcctgga gatttacggt tccgaatcaa agttgtcaag  
960  
cacccaatat ttgaaaggag aggagatgat ttgtacacaa atgtgacaat ctcattagtt  
1020  
gagtcactgg ttggctttga gatggatatt actcacttgg atggtcacaa ggtacatatt  
1080  
tcccgggata agatcaccag gccaggagcg aagctatgga agaaagggga agggctcccc  
1140  
aactttgaca acaacaatat caagggctct ttgataatca cttttgatgt ggattttcca  
1200  
aaagaacagt taacagagga agcgagagaa ggtatcaaac agctactgaa acaaggggtca  
1260  
gtgcagaagg tatacaatgg actgcaagga tattgagagt gaataaaatt ggactttggt  
1320  
taaaataagt gaataagcga tatttattat ctgcaagggt tttttgtgtg tgtttttggt  
1380  
tttattttca atatgcaagt taggcttaat ttttttatct aatgatcatc atgaaatgaa  
1440

taagagggct taagaatttg tccatttgca ttcggaaaag aatgaccagc aaaaggttta  
 1500  
 ctaatacctc tccctttggg gatttaatgt ctggtgctgc cgcctgagtt tcaagaatta  
 1560  
 aagctgcaag aggactccag gagcaaaaga aacacaatat agaggggttg agttgttagc  
 1620  
 aatttcattc aaaatgccaa ctggagaagt ctgtttttaa atacattttg ttgttatttt  
 1680  
 taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa  
 1725

<210> 4646

<211> 358

<212> PRT

<213> Homo sapiens

<400> 4646

Met	Ala	Pro	Gln	Asn	Leu	Ser	Thr	Phe	Cys	Leu	Leu	Leu	Leu	Tyr	Leu
1				5					10					15	
Ile	Gly	Ala	Val	Ile	Ala	Gly	Arg	Asp	Phe	Tyr	Lys	Ile	Leu	Gly	Val
			20					25					30		
Pro	Arg	Ser	Ala	Ser	Ile	Lys	Asp	Ile	Lys	Lys	Ala	Tyr	Arg	Lys	Leu
		35				40					45				
Ala	Leu	Gln	Leu	His	Pro	Asp	Arg	Asn	Pro	Asp	Asp	Pro	Gln	Ala	Gln
	50					55					60				
Glu	Lys	Phe	Gln	Asp	Leu	Gly	Ala	Ala	Tyr	Glu	Val	Leu	Ser	Asp	Ser
65				70						75				80	
Glu	Lys	Arg	Lys	Gln	Tyr	Asp	Thr	Tyr	Gly	Glu	Glu	Gly	Leu	Lys	Asp
			85						90				95		
Gly	His	Gln	Ser	Ser	His	Gly	Asp	Ile	Phe	Ser	His	Phe	Phe	Gly	Asp
		100						105					110		
Phe	Gly	Phe	Met	Phe	Gly	Gly	Thr	Pro	Arg	Gln	Gln	Asp	Arg	Asn	Ile
	115					120						125			
Pro	Arg	Gly	Ser	Asp	Ile	Ile	Val	Asp	Leu	Glu	Val	Thr	Leu	Glu	Glu
	130					135					140				
Val	Tyr	Ala	Gly	Asn	Phe	Val	Glu	Val	Val	Arg	Asn	Lys	Pro	Val	Ala
145				150						155				160	
Arg	Gln	Ala	Pro	Gly	Lys	Arg	Lys	Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg
			165					170					175		
Thr	Thr	Gln	Leu	Gly	Pro	Gly	Arg	Phe	Gln	Met	Thr	Gln	Glu	Val	Val
		180						185					190		
Cys	Asp	Glu	Cys	Pro	Asn	Val	Lys	Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu
	195					200						205			
Glu	Val	Glu	Ile	Glu	Pro	Gly	Val	Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe
	210					215					220				
Ile	Gly	Glu	Gly	Glu	Pro	His	Val	Asp	Gly	Glu	Pro	Gly	Asp	Leu	Arg
225				230					235					240	
Phe	Arg	Ile	Lys	Val	Val	Lys	His	Pro	Ile	Phe	Glu	Arg	Arg	Gly	Asp
			245					250						255	
Asp	Leu	Tyr	Thr	Asn	Val	Thr	Ile	Ser	Leu	Val	Glu	Ser	Leu	Val	Gly
	260							265					270		
Phe	Glu	Met	Asp	Ile	Thr	His	Leu	Asp	Gly	His	Lys	Val	His	Ile	Ser
	275					280						285			
Arg	Asp	Lys	Ile	Thr	Arg	Pro	Gly	Ala	Lys	Leu	Trp	Lys	Lys	Gly	Glu

290		295		300											
Gly	Leu	Pro	Asn	Phe	Asp	Asn	Asn	Asn	Ile	Lys	Gly	Ser	Leu	Ile	Ile
305					310					315					320
Thr	Phe	Asp	Val	Asp	Phe	Pro	Lys	Glu	Gln	Leu	Thr	Glu	Glu	Ala	Arg
				325					330						335
Glu	Gly	Ile	Lys	Gln	Leu	Leu	Lys	Gln	Gly	Ser	Val	Gln	Lys	Val	Tyr
			340					345					350		
Asn	Gly	Leu	Gln	Gly	Tyr										
			355												

&lt;210&gt; 4647

&lt;211&gt; 791

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4647

```

agatctgcac gacttgtaaa ctgaccatcc gaaatattat acaccaagct ggaggctagg
60
atttttaaag atgacaaacc acttggtcca ccaaaaagag atcgggtggc agagctgctt
120
gatccccctg gaggaggcac cagcatcacc aagtaggtgc cacaggtata tatgggtgtc
180
ttccgcagca tttttagagg cagccacag ctagtatttg ctgcttgatc ctctttcagt
240
gtgttgagga tgggtgaacc agtcagggca gcaagcgttg ctgacgggga ggctctatac
300
cgagaaagtc tacttagaag catctcatta atgcttttgg cagattcgcc ctctttttctc
360
attagaattg tacgttctctg aagtgggttg gctacaaata caccattttc aaccacaagt
420
tcaaaaatgt ccatgaagac agaatgtccc ttcggtgttt tctcattcag gctggcagga
480
gaccagatcc aatagaagta agtgccatct gaagacaggt gcacagtgct catggtgctg
540
ccaatgggga ggtgattggc tggcattggc accacctggc acacctgaag ggtgttctgg
600
tcaatgacct ggaaaaggga gtgaggttta ttatcgaaag agacaggccg gtggagaaga
660
ctgccgctgc caaaagccac ccacctcgtt tccaactcct cgttcgggca gtacacaaaa
720
cctctgagag taccatgtaa tccagatccc aatttgctta ctctcttcc aactgagtta
780
gtagtatata g
791

```

&lt;210&gt; 4648

&lt;211&gt; 188

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4648

Met	Pro	Ala	Asn	His	Leu	Pro	Ile	Gly	Ser	Thr	Met	Ser	Thr	Val	His
1				5				10						15	
Leu	Ser	Ser	Asp	Gly	Thr	Tyr	Phe	Tyr	Trp	Ile	Trp	Ser	Pro	Ala	Ser

20 25 30  
 Leu Asn Glu Lys Thr Pro Lys Gly His Ser Val Phe Met Asp Ile Phe  
 35 40 45  
 Glu Leu Val Val Glu Asn Gly Val Phe Val Ala Asn Pro Leu Gln Glu  
 50 55 60  
 Arg Thr Ile Leu Met Arg Lys Glu Gly Glu Ser Ala Lys Ser Ile Asn  
 65 70 75 80  
 Glu Met Leu Leu Ser Arg Leu Ser Arg Tyr Arg Ala Ser Pro Ser Ala  
 85 90 95  
 Thr Leu Ala Ala Leu Thr Gly Ser Thr Ile Ser Asn Thr Leu Lys Glu  
 100 105 110  
 Asp Gln Ala Ala Asn Thr Ser Cys Gly Leu Pro Leu Lys Met Leu Arg  
 115 120 125  
 Lys Thr Pro Ile Tyr Thr Cys Gly Thr Tyr Leu Val Met Leu Val Pro  
 130 135 140  
 Pro Pro Gly Gly Ser Gly Ser Ser Ala Thr Arg Ser Leu Phe Gly Gly  
 145 150 155 160  
 Thr Ser Gly Leu Ser Ser Leu Lys Ile Leu Ala Ser Ser Leu Val Tyr  
 165 170 175  
 Asn Ile Ser Asp Gly Gln Phe Thr Ser Arg Ala Asp  
 180 185

&lt;210&gt; 4649

&lt;211&gt; 3276

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4649

nntgatcaca taaaaatccg tgcctggcag attgctgggc ttcccgttga ctccttctcc  
 60  
 atcgacaatg gcatcattgt atccaattcc agacgctggg ccttaatgat tgaccctcac  
 120  
 gggcaggcca ataaatggat taagaacatg gagaaggcga ataaactggc tgtcatcaag  
 180  
 ttctctgata gcaactacat gaggatgctg gaaaacgcgc tgcagttagg caccctgtc  
 240  
 ttgattgaaa acattggaga agagctggat gcttctatcg aacctatctt gctcaaggca  
 300  
 acattcaaac agcaaggagt tgagtacatg aggctgggtg aaaacatcat tgaatattcc  
 360  
 agggatttta agttatacat cacaaccctg ttgaggaatc cacattacct ccagaagtt  
 420  
 gccgtgaagg tctgtctcct caacttcatg atcacccctc tgggtctcca agatcaactc  
 480  
 cttggcatcg tggctgcgaa ggagaagcca gagctggaag agaaaaagaa ccagttgatt  
 540  
 gtggaaagtg ccaagaacaa gaagcatctc aaggaaattg aagataagat cttggagggt  
 600  
 ctctccatgt ccaagggtaa catcctggag gatgaaaccg ccatcaaagt tctgtcctcc  
 660  
 tccaaagtgc tatctgaaga gatctcagag aaacagaaag ttgcttccat gacagaaacg  
 720  
 cagattgacg agactcggat gggctacaag ccagtggctg tgcattctgc caccatcttc  
 780



ttttgtatct cggacctggc caacatcgag ccgatgtacc agtactccct gacttggttc  
840  
ataaatctct acatgcattc cttgaccac agcacgaaga gcgaggaact gaatctgcgc  
900  
atcaagtaca tcattgacca tttcacctg agcatctaca acaacgtgtg ccgttctctg  
960  
tttgagaagg acaagctact cttctctctc ctctgacca tcggcatcat gaaacagaag  
1020  
aaggaaatta cggaggagggt gtggtacttc cttctcactg gaggcacgc actggataac  
1080  
ccctacccca atccagctcc ccaatggctg tctgagaagg catgggcaga gattgtccgt  
1140  
gcatctgcct taccctaaact gcatggcctg atggagcatt tggaacagaa cctgggtgaa  
1200  
tggaagctga tctatgactc ggcctggccc catgaggagc aactccctgg gtcttggaag  
1260  
ttctctcaag gattggagaa gatggtgatc cttcgatgtt tgcggcctga caaaatggtg  
1320  
ccagcggctc gggagttcat tgctgaacat atgggaaagc tgtatatcga agcccctacg  
1380  
ttcgatctcc agggatccta caatgattcc agctgctgtg cgcctttgat ttttgtgttg  
1440  
tctccaagtg cagacccaat ggcaggcctg ctgaagtttg ctgatgatct tggatatggga  
1500  
ggtaccagaa cacagaccat ctcccttggc caaggccaag gccctattgc tgccaaaatg  
1560  
atcaacaatg ccatcaaaga cgggacctgg gtggtcttac agaactgcca cctggccgca  
1620  
agctggatgc ctaccctgga gaagatttgt gaggagggtga ttgttcctga gagcaccaat  
1680  
gccagattca gactctggct aaccagctat ccatcagaga agtttccagt cagcattctc  
1740  
cagaatggaa tcaaaatgac caatgagccc cccaaagggc tccgggcca cctgttgccg  
1800  
tctacctca atgaccccat ctcatgctc gtgttcttcc aaagctgtgc aaaggcgggtg  
1860  
atgtggcaaa agatgttatt tggcctttgt ttcttccacg ccgttggtca agagagaaga  
1920  
aacttcgggc ccctaggggtg gaatatccc tatgaattca acgaatctga cctgaggatt  
1980  
agtatgtggc agatccagat gtttctcaat gactacaagg aggtgccctt tgatgctctg  
2040  
acctacctga caggggaatg taattacgga ggcagagtga ctgatgacaa agaccggcgt  
2100  
ctctgctgt cacttctgtc catgttctac tgtaaggaaa ttgaggagga ctattactcc  
2160  
ctcgtcctg gagacactta ctacatccct cctcatggct cctaccagtc ctatatcgac  
2220  
tatctcagga atctcccat cacagcccac ccagaagtgt tcggcctcca tgagaacgca  
2280  
gacatcacca aagacaacca ggaaaccaac cagctgtttg agggggctcct gctgaccctc  
2340  
cctagacagt caggaggaag tggcaagtcc cctcaggaag tggttgagga gttggcacia  
2400

gacattctct ccaagcttcc cagagacttt gacctggaag aggtcatgaa gttgtacccc  
 2460  
 gtggtctatg aagaatccat gaataccgtc ctaaggcagg agtcatcag attcaacagg  
 2520  
 ctgaccaaag tgggttcggag gagcctcatc aatcttggcc gagccatcaa aggacaggtc  
 2580  
 ctgatgtcct cggagctaga ggaagtcttt aacagcatgc ttgtgggtaa agtgccagcc  
 2640  
 atgtgggcag ccaagtctta cccatcactg aagcctctgg ggggctacgt ggctgacctg  
 2700  
 ctggccccgc tgaccttctt ccaggaatgg attgacaagg ggccccctgt ggtatttttg  
 2760  
 atctctggat tctacttcac acagtctttt ttgactggcg tctctcaaaa ttatgcccgg  
 2820  
 aaatatacca tccccattga ccacattgga tttgagtttg aggtaacccc acaagaaaca  
 2880  
 gtgatggaga ataacccccg agatggggcc tacatcaaag ggctcttctt agaaggtgcc  
 2940  
 cgttggggaca ggaaaacgat gcagattggg gaatctctcc ccaaaatcct ctatgacca  
 3000  
 ctgcccata tttggctgaa acctgggggag agcgcaatgt ttctgcatca ggacatctat  
 3060  
 gtgtgtccag tctacaaaac aagtggccgc agaggaaccc tctccaccac aggccactct  
 3120  
 accaactatg tcctctccat tgagcttcca acagacatgc cccagaagca ctggataaac  
 3180  
 cgaggggtgg cctcactgtg ccagctggat aactgatggc atttgtctca agacagaaaa  
 3240  
 taaaaagcat ttcattctta aaaaaaaaaa aaaaaa  
 3276

&lt;210&gt; 4650

&lt;211&gt; 965

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4650

Val	Glu	Tyr	Met	Arg	Leu	Gly	Glu	Asn	Ile	Ile	Glu	Tyr	Ser	Arg	Asp
1			5						10					15	
Phe	Lys	Leu	Tyr	Ile	Thr	Thr	Arg	Leu	Arg	Asn	Pro	His	Tyr	Leu	Pro
		20						25					30		
Glu	Val	Ala	Val	Lys	Val	Cys	Leu	Leu	Asn	Phe	Met	Ile	Thr	Pro	Leu
		35					40					45			
Gly	Leu	Gln	Asp	Gln	Leu	Leu	Gly	Ile	Val	Ala	Ala	Lys	Glu	Lys	Pro
	50				55					60					
Glu	Leu	Glu	Glu	Lys	Lys	Asn	Gln	Leu	Ile	Val	Glu	Ser	Ala	Lys	Asn
65				70					75					80	
Lys	Lys	His	Leu	Lys	Glu	Ile	Glu	Asp	Lys	Ile	Leu	Glu	Val	Leu	Ser
			85					90					95		
Met	Ser	Lys	Gly	Asn	Ile	Leu	Glu	Asp	Glu	Thr	Ala	Ile	Lys	Val	Leu
		100					105					110			
Ser	Ser	Ser	Lys	Val	Leu	Ser	Glu	Glu	Ile	Ser	Glu	Lys	Gln	Lys	Val
	115					120					125				
Ala	Ser	Met	Thr	Glu	Thr	Gln	Ile	Asp	Glu	Thr	Arg	Met	Gly	Tyr	Lys

130		135		140
Pro Val Ala Val His Ser Ala Thr Ile Phe Phe Cys Ile Ser Asp Leu				
145		150		155
Ala Asn Ile Glu Pro Met Tyr Gln Tyr Ser Leu Thr Trp Phe Ile Asn				160
	165		170	175
Leu Tyr Met His Ser Leu Thr His Ser Thr Lys Ser Glu Glu Leu Asn				
	180		185	190
Leu Arg Ile Lys Tyr Ile Ile Asp His Phe Thr Leu Ser Ile Tyr Asn				
	195	200		205
Asn Val Cys Arg Ser Leu Phe Glu Lys Asp Lys Leu Leu Phe Ser Leu				
	210	215		220
Leu Leu Thr Ile Gly Ile Met Lys Gln Lys Lys Glu Ile Thr Glu Glu				
225		230		235
Val Trp Tyr Phe Leu Leu Thr Gly Gly Ile Ala Leu Asp Asn Pro Tyr				240
	245		250	255
Pro Asn Pro Ala Pro Gln Trp Leu Ser Glu Lys Ala Trp Ala Glu Ile				
	260		265	270
Val Arg Ala Ser Ala Leu Pro Lys Leu His Gly Leu Met Glu His Leu				
	275	280		285
Glu Gln Asn Leu Gly Glu Trp Lys Leu Ile Tyr Asp Ser Ala Trp Pro				
	290	295		300
His Glu Glu Gln Leu Pro Gly Ser Trp Lys Phe Ser Gln Gly Leu Glu				
305		310		315
Lys Met Val Ile Leu Arg Cys Leu Arg Pro Asp Lys Met Val Pro Ala				320
	325		330	335
Val Arg Glu Phe Ile Ala Glu His Met Gly Lys Leu Tyr Ile Glu Ala				
	340		345	350
Pro Thr Phe Asp Leu Gln Gly Ser Tyr Asn Asp Ser Ser Cys Cys Ala				
	355	360		365
Pro Leu Ile Phe Val Leu Ser Pro Ser Ala Asp Pro Met Ala Gly Leu				
	370	375		380
Leu Lys Phe Ala Asp Asp Leu Gly Met Gly Gly Thr Arg Thr Gln Thr				
385		390		395
Ile Ser Leu Gly Gln Gly Gln Gly Pro Ile Ala Ala Lys Met Ile Asn				
	405		410	415
Asn Ala Ile Lys Asp Gly Thr Trp Val Val Leu Gln Asn Cys His Leu				
	420		425	430
Ala Ala Ser Trp Met Pro Thr Leu Glu Lys Ile Cys Glu Glu Val Ile				
	435		440	445
Val Pro Glu Ser Thr Asn Ala Arg Phe Arg Leu Trp Leu Thr Ser Tyr				
	450	455		460
Pro Ser Glu Lys Phe Pro Val Ser Ile Leu Gln Asn Gly Ile Lys Met				
465		470		475
Thr Asn Glu Pro Pro Lys Gly Leu Arg Ala Asn Leu Leu Arg Ser Tyr				
	485		490	495
Leu Asn Asp Pro Ile Ser Asp Pro Val Phe Phe Gln Ser Cys Ala Lys				
	500		505	510
Ala Val Met Trp Gln Lys Met Leu Phe Gly Leu Cys Phe Phe His Ala				
	515		520	525
Val Val Gln Glu Arg Arg Asn Phe Gly Pro Leu Gly Trp Asn Ile Pro				
	530		535	540
Tyr Glu Phe Asn Glu Ser Asp Leu Arg Ile Ser Met Trp Gln Ile Gln				
545		550		555
Met Phe Leu Asn Asp Tyr Lys Glu Val Pro Phe Asp Ala Leu Thr Tyr				560

				565					570					575			
Leu	Thr	Gly	Glu	Cys	Asn	Tyr	Gly	Gly	Arg	Val	Thr	Asp	Asp	Lys	Asp		
			580					585					590				
Arg	Arg	Leu	Leu	Leu	Ser	Leu	Leu	Ser	Met	Phe	Tyr	Cys	Lys	Glu	Ile		
		595					600					605					
Glu	Glu	Asp	Tyr	Tyr	Ser	Leu	Ala	Pro	Gly	Asp	Thr	Tyr	Tyr	Ile	Pro		
	610					615					620						
Pro	His	Gly	Ser	Tyr	Gln	Ser	Tyr	Ile	Asp	Tyr	Leu	Arg	Asn	Leu	Pro		
625					630				635						640		
Ile	Thr	Ala	His	Pro	Glu	Val	Phe	Gly	Leu	His	Glu	Asn	Ala	Asp	Ile		
				645					650					655			
Thr	Lys	Asp	Asn	Gln	Glu	Thr	Asn	Gln	Leu	Phe	Glu	Gly	Val	Leu	Leu		
		660						665					670				
Thr	Leu	Pro	Arg	Gln	Ser	Gly	Gly	Ser	Gly	Lys	Ser	Pro	Gln	Glu	Val		
	675					680						685					
Val	Glu	Glu	Leu	Ala	Gln	Asp	Ile	Leu	Ser	Lys	Leu	Pro	Arg	Asp	Phe		
	690					695					700						
Asp	Leu	Glu	Glu	Val	Met	Lys	Leu	Tyr	Pro	Val	Val	Tyr	Glu	Glu	Ser		
705					710				715						720		
Met	Asn	Thr	Val	Leu	Arg	Gln	Glu	Leu	Ile	Arg	Phe	Asn	Arg	Leu	Thr		
				725					730					735			
Lys	Val	Val	Arg	Arg	Ser	Leu	Ile	Asn	Leu	Gly	Arg	Ala	Ile	Lys	Gly		
			740					745					750				
Gln	Val	Leu	Met	Ser	Ser	Glu	Leu	Glu	Glu	Val	Phe	Asn	Ser	Met	Leu		
	755					760						765					
Val	Gly	Lys	Val	Pro	Ala	Met	Trp	Ala	Ala	Lys	Ser	Tyr	Pro	Ser	Leu		
	770					775					780						
Lys	Pro	Leu	Gly	Gly	Tyr	Val	Ala	Asp	Leu	Leu	Ala	Arg	Leu	Thr	Phe		
785					790				795						800		
Phe	Gln	Glu	Trp	Ile	Asp	Lys	Gly	Pro	Pro	Val	Val	Phe	Trp	Ile	Ser		
			805					810						815			
Gly	Phe	Tyr	Phe	Thr	Gln	Ser	Phe	Leu	Thr	Gly	Val	Ser	Gln	Asn	Tyr		
			820					825					830				
Ala	Arg	Lys	Tyr	Thr	Ile	Pro	Ile	Asp	His	Ile	Gly	Phe	Glu	Phe	Glu		
	835						840					845					
Val	Thr	Pro	Gln	Glu	Thr	Val	Met	Glu	Asn	Asn	Pro	Glu	Asp	Gly	Ala		
	850					855					860						
Tyr	Ile	Lys	Gly	Leu	Phe	Leu	Glu	Gly	Ala	Arg	Trp	Asp	Arg	Lys	Thr		
865					870				875						880		
Met	Gln	Ile	Gly	Glu	Ser	Leu	Pro	Lys	Ile	Leu	Tyr	Asp	Pro	Leu	Pro		
			885					890						895			
Ile	Ile	Trp	Leu	Lys	Pro	Gly	Glu	Ser	Ala	Met	Phe	Leu	His	Gln	Asp		
		900						905					910				
Ile	Tyr	Val	Cys	Pro	Val	Tyr	Lys	Thr	Ser	Ala	Arg	Arg	Gly	Thr	Leu		
	915						920					925					
Ser	Thr	Thr	Gly	His	Ser	Thr	Asn	Tyr	Val	Leu	Ser	Ile	Glu	Leu	Pro		
	930					935					940						
Thr	Asp	Met	Pro	Gln	Lys	His	Trp	Ile	Asn	Arg	Gly	Val	Ala	Ser	Leu		
945					950				955						960		
Cys	Gln	Leu	Asp	Asn													
				965													

&lt;210&gt; 4651

&lt;211&gt; 869

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4651

```

ngggcccgca ctttcccgga gtgcaccccg cggccgccag ccggggcgat ggccggggctc
60
tggctggggc tcgtgtggca gaagctgctg ctgtggggcg cggcgagtgc cgtttccctg
120
gccggcgcca gtctggtcct gagcctgctg cagaggggtgg cgagctacgc gcggaaatgg
180
cagcagatgc ggcccatccc cacggtggcc cgcgcctacc cactggtggg ccacgcgctg
240
ctgatgaagc cggacgggcg agaatttttt cagcagatca ttgagtacac agaggaatac
300
cgccacatgc cgctgctgaa gctctgggtc gggccagtgc ccatggtggc cttttataat
360
gcagaaaatg tggaggtaat tttaactagt tcaaagcaaa ttgacaaatc ctctatgtac
420
aagtttttag aaccatggct tggcctagga cttcttacia gtactggaaa caaatggcgc
480
tccaggagaa agatgttaac acccactttc cattttacca ttctggaaga tttcttagat
540
atcatgaatg aacaagcaaa tatattgggt aagaaacttg aaaaacacat taaccaagaa
600
gcatttaact gcttttttta catcactctt tgtgccttag atatcatctg tgaaacagct
660
atggggaaga atattggtgc tcaaagtaat gatgattccg agtatgtccg tgcagtttat
720
agaatgagtg agatgatatt tccaagaata aagatgccct ggctttggct tgatctctgg
780
taccttatgt ttaaagaagg atgggaacac aaaaagagcc ttaagatcct acatactttt
840
accacagtg tcatcccgga acggggccaa
869

```

&lt;210&gt; 4652

&lt;211&gt; 289

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4652

```

Xaa Ala Arg Thr Phe Pro Glu Cys Thr Pro Arg Pro Pro Ala Gly Ala
1           5           10           15
Met Ala Gly Leu Trp Leu Gly Leu Val Trp Gln Lys Leu Leu Trp
20           25           30
Gly Ala Ala Ser Ala Val Ser Leu Ala Gly Ala Ser Leu Val Leu Ser
35           40           45
Leu Leu Gln Arg Val Ala Ser Tyr Ala Arg Lys Trp Gln Gln Met Arg
50           55           60
Pro Ile Pro Thr Val Ala Arg Ala Tyr Pro Leu Val Gly His Ala Leu
65           70           75           80
Leu Met Lys Pro Asp Gly Arg Glu Phe Phe Gln Gln Ile Ile Glu Tyr
85           90           95
Thr Glu Glu Tyr Arg His Met Pro Leu Leu Lys Leu Trp Val Gly Pro

```

```
<210> 4653
<211> 1276
<212> DNA
<213> Homo sapiens
```

```

<400> 4653
nagcgtctccc gtgggtggaa cagtgactct tcgagaagac agtgccaaga ggttggagag
60
gagggcacgc cgcattctccg catgtctgtc ggattattcg ctagccagcg acagtgggggt
120
gtttgaacct ctaaccaaaa ggaacgaaga tgccgaggag cctgcctacg gagacacggc
180
cagtaacgga gatccccaga tccacgtggg actctctgctc gacagtggca gcgagtgtct
240
cctcgtgcac gtgctgcagc tgaagaacct ggcggggctg gcggtgaagg aagactgcaa
300
agtccacatc cgagtctatt tgccccact tcggtggata gcggtgtag caactgcacc
360
cagaccagcc ctccgtaccc agagccctgt tgcattgggta tcgactccat cctggggccac
420
ccatttgctg ctcaggcagg gccttacagc cccgagaaat ttcagccctc gcctcttaag
480
gttgataaagg aaaccaaacac ggaagatctc tttctggaag aagcagccag cctcgtgaag
540
gagcggccca gccgcggggc ccgagggctc ccttttgttc ggagtggcac gattgtccgt
600
tccagacat tctcgcttg agcacgaagc cagtatgttt gcagacttta tcgtagtgac
660

```

agcgacagtt caacgctgcc ccggaagtcc ccctttgtcc gaaatacttt ggaaagacga  
 720  
 acccttcgct ataagcagtc atgcaggtct tccctggctg agctcatggc ccgcacctcc  
 780  
 ctggacttgg agctggatct ccaggcgtcg agaacacggc agaggcagct gaatgaggag  
 840  
 ctctgcgcc tccgtgagct gcggcagcgg ttggaggacg cccagctccg tggccagact  
 900  
 gacctccac cctgggtgct tcgggacgag cggctccgtg gcctgctgcg ggaggccgag  
 960  
 cggcagacaa gacagaccaa acttgactac cgtcatgagc aggcggctga gaagatgctg  
 1020  
 aagaaggcct ccaaggagat ctaccagctg cgtgggcaga gccacaaaga gcccatccaa  
 1080  
 gtgcagacct ttagggagaa gatagcattc ttcacaaggc caaggatcaa catacctcct  
 1140  
 ctcccagccg acgacgtctg atggagtgcg ttgtgcacat gaagtattta tccacctgtt  
 1200  
 ttattttcat gaagttctta gactagctga atttgtcttt aaaatatttg tgcaaagcta  
 1260  
 ttaatatata catttt  
 1276

<210> 4654

<211> 255

<212> PRT

<213> Homo sapiens

<400> 4654

Met	Gly	Ile	Asp	Ser	Ile	Leu	Gly	His	Pro	Phe	Ala	Ala	Gln	Ala	Gly
1				5					10					15	
Pro	Tyr	Ser	Pro	Glu	Lys	Phe	Gln	Pro	Ser	Pro	Leu	Lys	Val	Asp	Lys
			20					25					30		
Glu	Thr	Asn	Thr	Glu	Asp	Leu	Phe	Leu	Glu	Glu	Ala	Ala	Ser	Leu	Val
		35				40						45			
Lys	Glu	Arg	Pro	Ser	Arg	Arg	Ala	Arg	Gly	Ser	Pro	Phe	Val	Arg	Ser
	50					55					60				
Gly	Thr	Ile	Val	Arg	Ser	Gln	Thr	Phe	Ser	Pro	Gly	Ala	Arg	Ser	Gln
65					70				75					80	
Tyr	Val	Cys	Arg	Leu	Tyr	Arg	Ser	Asp	Ser	Asp	Ser	Ser	Thr	Leu	Pro
				85				90						95	
Arg	Lys	Ser	Pro	Phe	Val	Arg	Asn	Thr	Leu	Glu	Arg	Arg	Thr	Leu	Arg
			100					105					110		
Tyr	Lys	Gln	Ser	Cys	Arg	Ser	Ser	Leu	Ala	Glu	Leu	Met	Ala	Arg	Thr
		115					120					125			
Ser	Leu	Asp	Leu	Glu	Leu	Asp	Leu	Gln	Ala	Ser	Arg	Thr	Arg	Gln	Arg
		130				135					140				
Gln	Leu	Asn	Glu	Glu	Leu	Cys	Ala	Leu	Arg	Glu	Leu	Arg	Gln	Arg	Leu
145					150				155					160	
Glu	Asp	Ala	Gln	Leu	Arg	Gly	Gln	Thr	Asp	Leu	Pro	Pro	Trp	Val	Leu
			165					170						175	
Arg	Asp	Glu	Arg	Leu	Arg	Gly	Leu	Leu	Arg	Glu	Ala	Glu	Arg	Gln	Thr
		180					185						190		
Arg	Gln	Thr	Lys	Leu	Asp	Tyr	Arg	His	Glu	Gln	Ala	Ala	Glu	Lys	Met





130 135 140  
 Gly Arg Gln His His Gly Arg Pro  
 145 150

<210> 4657  
 <211> 723  
 <212> DNA  
 <213> Homo sapiens

<400> 4657  
 nnacgcgtga tggctggcgg agtcatggac aaggagtacg tgggttttgc tgccctcccc  
 60  
 aaccagctgc accgcaagtc tgtcaagaag gggtttgact tcacgctaata ggtggcaggg  
 120  
 gagtcaggcc tagggaaatc caccctcatc aacagcctct tcctcaccaa cctctatgag  
 180  
 gatcgccagg tgccagaggc cagtgtctgc ttgacacaga ccctggccat tgagcgccgg  
 240  
 ggcgtagaga ttgaggaagg ggggtgtgaaa gtgaagctga cccttgtgga cacacctggc  
 300  
 ttgggggact cagtggactg ctctgactgc tggcttcggg tggtgaaatt catcgaggag  
 360  
 caatttgagc agtaccttag ggatgagagt ggctgaacc ggaagaacat ccaggactcc  
 420  
 cgagtccact gctgctcta cttcatctca cccttcggcc gggctccggc ccctagatgt  
 480  
 ggcttcctcc gggcaatata cgagaaagtc aacatcatcc cagtcattgg caaagcggat  
 540  
 gccctgatgc ccaggaaac ccaggccctc aagcagaaga tccgggatca gttgaaggaa  
 600  
 gaggagatcc acatctacca gttccccgaa tgtgactctg atgaagatga agacttcaag  
 660  
 aggcaggatg cagagatgaa ggaaagcatc ccttttgcag tcgtgggatc atgcgagggtg  
 720  
 gta  
 723

<210> 4658  
 <211> 233  
 <212> PRT  
 <213> Homo sapiens

<400> 4658  
 Met Asp Lys Glu Tyr Val Gly Phe Ala Ala Leu Pro Asn Gln Leu His  
 1 5 10 15  
 Arg Lys Ser Val Lys Lys Gly Phe Asp Phe Thr Leu Met Val Ala Gly  
 20 25 30  
 Glu Ser Gly Leu Gly Lys Ser Thr Leu Ile Asn Ser Leu Phe Leu Thr  
 35 40 45  
 Asn Leu Tyr Glu Asp Arg Gln Val Pro Glu Ala Ser Ala Arg Leu Thr  
 50 55 60  
 Gln Thr Leu Ala Ile Glu Arg Arg Gly Val Glu Ile Glu Glu Gly Gly  
 65 70 75 80  
 Val Lys Val Lys Leu Thr Leu Val Asp Thr Pro Gly Phe Gly Asp Ser

```
<210> 4659
<211> 864
<212> DNA
<213> Homo sapiens
```

```

<400> 4659
tttaaaagca gtggaaatta gtaaacaagg ttccgagcag gaaatgtctt gtggcctggg
60
agagaatctc accacaaatg aaaactacgt gaaaggccct gcactgaaaa tgcaagctca
120
ggcgccggtg gtcgttgtga cccaacctgg agtcggtccc ggtccggccc ccagaactc
180
caactggcag acaggcatgt gtgactgttt cagcgactgc ggagtctgtc tctgtggcac
240
attttgtttc ccgtgccttg ggtgtcaagt tgcagctgat atgaatgaat gctgtctgtg
300
tggaacaagc gtcgcaatga ggactctcta caggaccgca tatggcatcc ctggatctat
360
ttgtgatgac tatatggcaa ctctttgctg tcctcattgt actctttgcc aaatcaagag
420
agatatcaac agaaggagag ccatgcgtag tttctaaaaa ctgatgggtga aaagctctta
480
ccgaagcaac aaaattcagc agacacctct tcagcttgag ttcttcacca tcttttgcaa
540
ctgaaatatg atggatatgc ttaagtacaa ctgatggcat gaaaaaaatc aaatTTTTGA
600
tttattataa atgaatgttg tccctgaact tagctaaatg gtgcaactta gtttctcctt
660
gctttcatat tatcgaattc gaatttcttg gcttataaac tttttaaaatt acatttgaaa
720
tataaaccaa atgaaatatt ttactgataa gattcttcat gcttctttgc tctccttaaa
780
atgtcttttt cactagttag ttccaagggt cagtctcata attttgttct tatactttga
840

```

tttccttttt cttttttttt ttg  
864

<210> 4660  
<211> 192  
<212> PRT  
<213> Homo sapiens

<400> 4660  
Met Pro Ser Val Val Leu Lys His Ile His His Ile Ser Val Ala Lys  
1 5 10 15  
Asp Gly Glu Glu Leu Lys Leu Lys Arg Cys Leu Leu Asn Phe Val Ala  
20 25 30  
Ser Val Arg Ala Phe His His Gln Phe Leu Glu Ser Thr His Gly Ser  
35 40 45  
Pro Ser Val Asp Ile Ser Leu Asp Leu Ala Lys Ser Thr Met Arg Thr  
50 55 60  
Ala Lys Ser Cys His Ile Val Ile Thr Asn Arg Ser Arg Asp Ala Ile  
65 70 75 80  
Ser Gly Pro Val Glu Ser Pro His Cys Asp Ala Cys Ser Thr Gln Thr  
85 90 95  
Ala Phe Ile His Ile Ser Cys Asn Leu Thr Pro Lys Ala Arg Glu Thr  
100 105 110  
Lys Cys Ala Thr Glu Thr Asp Ser Ala Val Ala Glu Thr Val Thr His  
115 120 125  
Ala Cys Leu Pro Val Gly Val Leu Gly Gly Arg Thr Gly Thr Asp Ser  
130 135 140  
Arg Leu Gly His Asn Asp His Arg Arg Leu Ser Leu His Phe Gln Cys  
145 150 155 160  
Arg Ala Phe His Val Val Phe Ile Cys Gly Glu Ile Leu Ser Gln Ala  
165 170 175  
Thr Arg His Phe Leu Leu Gly Thr Leu Phe Thr Asn Phe His Cys Phe  
180 185 190

<210> 4661  
<211> 153  
<212> DNA  
<213> Homo sapiens

<400> 4661  
cggatctgca tgccgctcac cgtagacgag tacaaaattg gacagctgta catgatcagc  
60  
aaacacagcc atgaacagag tgaccgggga gaaggggtgg aggtcgcca gaatgagccc  
120  
tttgaggacc ctcaccatgg ccatgggcag ttc  
153

<210> 4662  
<211> 51  
<212> PRT  
<213> Homo sapiens

<400> 4662  
Arg Ile Cys Met Pro Leu Thr Val Asp Glu Tyr Lys Ile Gly Gln Leu

1		5		10		15									
Tyr	Met	Ile	Ser	Lys	His	Ser	His	Glu	Gln	Ser	Asp	Arg	Gly	Glu	Gly
		20						25					30		
Val	Glu	Val	Val	Gln	Asn	Glu	Pro	Phe	Glu	Asp	Pro	His	His	Gly	His
		35					40					45			
Gly	Gln	Phe													
	50														

&lt;210&gt; 4663

&lt;211&gt; 1550

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4663

```

atgttccggc acacggacag cctctttccc atcctactgc agacgttatc ggatgaatcg
60
gatgaggtga tcctgaagga cctggaggtg ctggcagaaa tcgcttcctc ccccgagggc
120
cagacgggatg acccaggccc cctcgatggc cctgacctcc aggccagcca ctgagagctc
180
caggtgcccc cccctggcag agccggccta ctgaacacct ctggtaccaa aggcttagaa
240
tggttctcctt caactcccac catgaattct tacttttata agttcatgat caaccttctc
300
aagagattca gcagcgaacg gaagctcctg gaggtcagag gccctttcat catcaggcag
360
ctgtgcctcc tgctgaatgc ggagaacatc ttccactcaa tggcagacat cctgctgcgg
420
gaggaggacc tcaagttcgc ctcgaccatg gtccacgccc tcaacacat cctgctgacc
480
tccacagagc tcttcagct aaggaaccag ctgaaggacc tgaagacct ggagagccag
540
aacctgttct gctgcctgta ccgctcctgg tgccacaacc cagtcaccac ggtgtccctc
600
tgcttcctca cccagaacta ccggcacgcc tatgacctca tccagaagtt tggggacctg
660
gaggtcaccg tggacttctt cgcagaggtg gacaagctgg tgcagctgat tgagtcccc
720
atcttcacat atctgcgcct gcagctgctg gacgtgaaga acaacccta cctgatcaag
780
gccctctacg gcctgctcat gctcctgccg cagagcagcg ccttcagct gctctgcac
840
cggctccagt gcgtgccccaa ccctgagctg ctgcagaccg aagacagtct aaaggcagcc
900
cccaagtccc agaaagctga ctccctagc atcgactacg cagagctgct gcagcacttt
960
gagaagggtcc agaacaagca cctggaagtg cggcaccagc ggagcgggag tggggaccac
1020
ctggaccgga ggggtgtcct ctgacaggcc tggcacggag gagggccac cgagtgggtc
1080
catgaaacac taagggtcgt cacgccctcc cgaggagctc aaggacctgc ctgtcaggac
1140
cagggctggg cctgccaacc cagggcagtg ttggggccgg aggctgctgt gtctgcccc
1200

```

gctcctctca gaggccagtc cccaggcctc cagcgctgtc agctgcaccc tggcattctc  
 1260  
 acagagctgg ctgccccacc agtggggggc tatagcctca gagaccactc atcctctgga  
 1320  
 atcaacctct ttctaatacc ctcttgga aaagagcttg ccctcctcca gcacactaga  
 1380  
 gctctggcct tgtgtgtata tgtatacata cgtgaacaca tgctgtgtgt tgtgtgtgtg  
 1440  
 tgtgtacttg tatgcacgta ggcaccagca caaagatctg aatgatgcac cccaccccca  
 1500  
 cccaataaaa gaaataacag aaaaccctca aaaaaaaaaa aaaaaaaaaa  
 1550

<210> 4664

<211> 347

<212> PRT

<213> Homo sapiens

<400> 4664

Met	Phe	Arg	His	Thr	Asp	Ser	Leu	Phe	Pro	Ile	Leu	Leu	Gln	Thr	Leu
1				5					10					15	
Ser	Asp	Glu	Ser	Asp	Glu	Val	Ile	Leu	Lys	Asp	Leu	Glu	Val	Leu	Ala
			20					25					30		
Glu	Ile	Ala	Ser	Ser	Pro	Ala	Gly	Gln	Thr	Asp	Asp	Pro	Gly	Pro	Leu
		35					40					45			
Asp	Gly	Pro	Asp	Leu	Gln	Ala	Ser	His	Ser	Glu	Leu	Gln	Val	Pro	Thr
	50					55					60				
Pro	Gly	Arg	Ala	Gly	Leu	Leu	Asn	Thr	Ser	Gly	Thr	Lys	Gly	Leu	Glu
65					70					75				80	
Cys	Ser	Pro	Ser	Thr	Pro	Thr	Met	Asn	Ser	Tyr	Phe	Tyr	Lys	Phe	Met
			85						90					95	
Ile	Asn	Leu	Leu	Lys	Arg	Phe	Ser	Ser	Glu	Arg	Lys	Leu	Leu	Glu	Val
		100						105					110		
Arg	Gly	Pro	Phe	Ile	Ile	Arg	Gln	Leu	Cys	Leu	Leu	Leu	Asn	Ala	Glu
		115					120					125			
Asn	Ile	Phe	His	Ser	Met	Ala	Asp	Ile	Leu	Leu	Arg	Glu	Glu	Asp	Leu
	130					135					140				
Lys	Phe	Ala	Ser	Thr	Met	Val	His	Ala	Leu	Asn	Thr	Ile	Leu	Leu	Thr
145					150					155				160	
Ser	Thr	Glu	Leu	Phe	Gln	Leu	Arg	Asn	Gln	Leu	Lys	Asp	Leu	Lys	Thr
			165						170					175	
Leu	Glu	Ser	Gln	Asn	Leu	Phe	Cys	Cys	Leu	Tyr	Arg	Ser	Trp	Cys	His
		180					185						190		
Asn	Pro	Val	Thr	Thr	Val	Ser	Leu	Cys	Phe	Leu	Thr	Gln	Asn	Tyr	Arg
	195					200						205			
His	Ala	Tyr	Asp	Leu	Ile	Gln	Lys	Phe	Gly	Asp	Leu	Glu	Val	Thr	Val
	210					215					220				
Asp	Phe	Leu	Ala	Glu	Val	Asp	Lys	Leu	Val	Gln	Leu	Ile	Glu	Cys	Pro
225					230					235				240	
Ile	Phe	Thr	Tyr	Leu	Arg	Leu	Gln	Leu	Leu	Asp	Val	Lys	Asn	Asn	Pro
			245						250					255	
Tyr	Leu	Ile	Lys	Ala	Leu	Tyr	Gly	Leu	Leu	Met	Leu	Leu	Pro	Gln	Ser
		260					265						270		
Ser	Ala	Phe	Gln	Leu	Leu	Ser	His	Arg	Leu	Gln	Cys	Val	Pro	Asn	Pro

<210> 4666

<211> 167  
 <212> PRT  
 <213> Homo sapiens

<400> 4666

```

Xaa Arg His Glu Gly Gly Ser His Arg Lys Ala Ala Arg Ser Val Ser
 1           5           10           15
Gly Ile Thr Arg Arg Val Phe Met Trp Thr Val Ser Gly Thr Pro Cys
          20           25           30
Arg Glu Phe Trp Ser Arg Phe Arg Lys Glu Lys Glu Pro Val Val Val
          35           40           45
Glu Thr Val Glu Glu Lys Lys Glu Pro Ile Leu Val Cys Pro Pro Leu
          50           55           60
Arg Ser Arg Ala Tyr Thr Pro Pro Glu Asp Leu Gln Ser Arg Leu Glu
65           70           75           80
Ser Tyr Val Lys Glu Val Phe Gly Ser Ser Leu Pro Ser Asn Trp Gln
          85           90           95
Asp Ile Ser Leu Glu Asp Ser Arg Leu Lys Phe Asn Leu Leu Ala His
          100          105          110
Leu Ala Asp Asp Leu Gly His Val Val Pro Asn Ser Arg Leu His Gln
          115          120          125
Met Cys Arg Val Arg Asp Val Leu Asp Phe Tyr Asn Val Pro Ile Gln
          130          135          140
Asp Arg Ser Lys Phe Asp Glu Leu Ser Ala Ser Asn Leu Pro Pro Asn
145          150          155          160
Leu Lys Ile Thr Trp Ser Tyr
          165

```

<210> 4667  
 <211> 1031  
 <212> DNA  
 <213> Homo sapiens

<400> 4667

```

ntggccatgg gcacgtccct gtatgcccc gaggtatgta actgctctgc gcctgacacg
60
ggcaacatgg agctgctggt gaggtatggc accgaagcgc agaaggctcg ctggctgatt
120
cctctgctgg aggggaaagc ccgctcctgt tttgctatga ccgagcccca ggttgccctt
180
tcagatgcca ccaacattga ggcttccatc agagaggagg acagcttcta tgtcataaac
240
ggtcacaaat ggtggatcac aggcacctcg gatcctcggt gccaaactctg tgtgtttatg
300
ggaaaaacag acccacatgc accaagacac cggcagcagt ctgtgctctt ggttcccatg
360
gataccccag ggataaaaaat catccggcct ctgacggtgt atggactgga agatgcacca
420
ggtggccatg gtgaagtccg atttgagcac gtgcgtgtgc ccaaagagaa catggctctg
480
ggccctggcc gaggctttga gatcgcccag ggcagactgg gccccggcag gatccatcac
540
tgcattgaggc tgatcgggtt ctcatagagg gccctggcac tcatgaaggc ccgcgtgagt
600

```

gctttccccc gcaccagca ctgactcaga accaccacct tctgctttgc tgcggactt  
 660  
 caattcctac ctgttttctg agtgcagtcc tagcaggtga agcaaggtga tgccttgcc  
 720  
 aagaagttgc attcctgtct gctttgcac tgctactttg ctgcagtttg gattcagagc  
 780  
 agaatggacc ccactctgtc gaggtgacct gaagggaac gccaggctct gtagcagcag  
 840  
 agggcaaggt tccaaggtgt aaaggtcatg ctgctagcac attattaaaa atcagtcctgg  
 900  
 gtgcaatggc tcacagctat aatcccagta ctttgggagg tctaggtagg agggttgctt  
 960  
 gaagccaagc atttgagacc agcctaggcg aaaaagagag actcagtcct taaaaaaaaa  
 1020  
 aaaaaaaaaa a  
 1031

<210> 4668  
 <211> 207  
 <212> PRT  
 <213> Homo sapiens

<400> 4668  
 Xaa Ala Met Gly Thr Ser Leu Tyr Ala Pro Glu Val Cys Asn Cys Ser  
 1 5 10 15  
 Ala Pro Asp Thr Gly Asn Met Glu Leu Leu Val Arg Tyr Gly Thr Glu  
 20 25 30  
 Ala Gln Lys Ala Arg Trp Leu Ile Pro Leu Leu Glu Gly Lys Ala Arg  
 35 40 45  
 Ser Cys Phe Ala Met Thr Glu Pro Gln Val Ala Ser Ser Asp Ala Thr  
 50 55 60  
 Asn Ile Glu Ala Ser Ile Arg Glu Glu Asp Ser Phe Tyr Val Ile Asn  
 65 70 75 80  
 Gly His Lys Trp Trp Ile Thr Gly Ile Leu Asp Pro Arg Cys Gln Leu  
 85 90 95  
 Cys Val Phe Met Gly Lys Thr Asp Pro His Ala Pro Arg His Arg Gln  
 100 105 110  
 Gln Ser Val Leu Leu Val Pro Met Asp Thr Pro Gly Ile Lys Ile Ile  
 115 120 125  
 Arg Pro Leu Thr Val Tyr Gly Leu Glu Asp Ala Pro Gly Gly His Gly  
 130 135 140  
 Glu Val Arg Phe Glu His Val Arg Val Pro Lys Glu Asn Met Val Leu  
 145 150 155 160  
 Gly Pro Gly Arg Gly Phe Glu Ile Ala Gln Gly Arg Leu Gly Pro Gly  
 165 170 175  
 Arg Ile His His Cys Met Arg Leu Ile Gly Phe Ser Glu Arg Ala Leu  
 180 185 190  
 Ala Leu Met Lys Ala Arg Val Ser Ala Phe Pro Arg Thr Gln His  
 195 200 205

<210> 4669  
 <211> 683  
 <212> DNA  
 <213> Homo sapiens



<400> 4669  
 nnaagcttca gtgggctacg tggaatcata caagaaaaat atagagcaaa taaaaagaaa  
 60  
 cagaaagtat ttcaacacaa tgaacttaag aaagagactt gtgttcaggc aggttttcag  
 120  
 gacatgaaca taaaaaaaca gattcaggaa cagcaccagg ctgccattat tattcagaag  
 180  
 cattgtaaag cctttaaaat aaggaagcat tatctccaca ttagagcaac agtagtttct  
 240  
 attcaaagaa gatacagaaa actaactgca gtgcgtaccc aagcagttat ttgtatacag  
 300  
 tcttattaca gaggctttta agtacgaaag gatattcaaa atatgcaccg ggctgccaca  
 360  
 ctaattcagt cattctatcg aatgcacagg gccaaagttg attattaaac aaagaaaact  
 420  
 gcaattgtgg ttatacagaa ttattatagg ttgtatgtta gagtaaaaac agaaagaaaa  
 480  
 aacttttttag cagttcagaa atctgtccga actattcagg ctgcttttag aggcattgaaa  
 540  
 gttagacaaa aattgaaaaa atgtatcaga ggaaaagatg gcagccattg ttaaccaatc  
 600  
 tgcactctgc tgttacagaa gtaaaactca gtatgaagct gttcaaagtg aagggtgttat  
 660  
 gattcaagag tgggtataaag ctt  
 683

<210> 4670  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 4670  
 Xaa Ser Phe Ser Gly Leu Arg Gly Ile Ile Gln Glu Lys Tyr Arg Ala  
 1 5 10 15  
 Asn Lys Lys Lys Gln Lys Val Phe Gln His Asn Glu Leu Lys Lys Glu  
 20 25 30  
 Thr Cys Val Gln Ala Gly Phe Gln Asp Met Asn Ile Lys Lys Gln Ile  
 35 40 45  
 Gln Glu Gln His Gln Ala Ala Ile Ile Ile Gln Lys His Cys Lys Ala  
 50 55 60  
 Phe Lys Ile Arg Lys His Tyr Leu His Ile Arg Ala Thr Val Val Ser  
 65 70 75 80  
 Ile Gln Arg Arg Tyr Arg Lys Leu Thr Ala Val Arg Thr Gln Ala Val  
 85 90 95  
 Ile Cys Ile Gln Ser Tyr Tyr Arg Gly Phe Lys Val Arg Lys Asp Ile  
 100 105 110  
 Gln Asn Met His Arg Ala Ala Thr Leu Ile Gln Ser Phe Tyr Arg Met  
 115 120 125  
 His Arg Ala Lys Val Asp Tyr  
 130 135

<210> 4671  
 <211> 657

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4671

```

accggtccag ggcattcagg tggtcctcca ggcccaggag agtgctgcac acccgttcca
60
gcaccagcgc catccgcttc gaggttgagc ctctgcagc agtggaatca ggggcctcct
120
ggggctcggc aggggctacc cggctccgct tccgccagc aatggagact gcagccacgt
180
taggccaggc tgctgcagtg gtttcagcat ctatccgcag ggatccacgg ggaagctggt
240
gtgcgccgga taaagatggc aaccgccgat gagattgtga aactcatgct cgaccacatg
300
acaaacacca ccaacgcgtc ccatgtgcct gtgcagcccg gctcctcagt tgtgatgatg
360
gtcaacaacc tgggtggcct gtcattcctg gaactgggca tcatagccga cgctaccgtc
420
cgctccctgg agggccgcgg ggtgaagatt gcccgtgccc tgggtgggcac cttcatgtca
480
gcactggaga tgctggcat ttctctcacc ctctgctgg tggatgagcc tctcctgaaa
540
ctgatagatg ctgaaaccac tgcagcagcc tggcctcgaa gcggatggcg ctggtgctgg
600
aacgggtgtg cagcactctc ctgggcctgg aggaacacct gaatgcctg gaccggg
657

```

&lt;210&gt; 4672

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4672

```

Ala Arg Leu Leu Gln Trp Phe Gln His Leu Ser Ala Gly Ile His Gly
1           5           10           15
Glu Ala Gly Val Arg Arg Ile Lys Met Ala Thr Ala Asp Glu Ile Val
20           25           30
Lys Leu Met Leu Asp His Met Thr Asn Thr Thr Asn Ala Ser His Val
35           40           45
Pro Val Gln Pro Gly Ser Ser Val Val Met Met Val Asn Asn Leu Gly
50           55           60
Gly Leu Ser Phe Leu Glu Leu Gly Ile Ile Ala Asp Ala Thr Val Arg
65           70           75           80
Ser Leu Glu Gly Arg Gly Val Lys Ile Ala Arg Ala Leu Val Gly Thr
85           90           95
Phe Met Ser Ala Leu Glu Met Pro Gly Ile Ser Leu Thr Leu Leu Leu
100          105          110
Val Asp Glu Pro Leu Leu Lys Leu Ile Asp Ala Glu Thr Thr Ala Ala
115          120          125
Ala Trp Pro Arg Ser Gly Trp Arg Trp Cys Trp Asn Gly Cys Ala Ala
130          135          140
Leu Ser Trp Ala Trp Arg Asn Thr
145          150

```

<210> 4673  
<211> 1335  
<212> DNA  
<213> Homo sapiens

<400> 4673  
ccgcggcttc tggctgcgcg gcctgcgcgc gcctcccggg cggattccag ccccgagcgg  
60  
gacagcgcag cggggagcga cgagatttct ctctgatcaa acggacagtt caggactcag  
120  
aatctaagga tgaatgttca ccgtggcagt gacagtgaca ggttattgcg gcaggaggcc  
180  
agctgcttag tggatgatac tttagctgta gccaagaaa aagaagcaaa cagcctggct  
240  
tcattctggtc ctcataatct tacttatect ctaggtccca ggaatgaaga cctctcactt  
300  
gactatgcct ctcagccagc aaatcttcag ttccctcaca taatgcccct tgctgaagac  
360  
atcaaagggtt cttgcttcca aagtgggaat aaacggaacc atgaaccttt tattgctcca  
420  
gaaagatttg gaaacagtag tgtgggcttt ggcagtaatt ccattccca agcaccagag  
480  
aaagtgcgc ttcttgtaga tggcacacgt tttgttgtga atccacagat tttactgct  
540  
catccggata ccatgctggg aaggatgttt ggaccaggaa gagagtacaa cttactcgg  
600  
cccaatgaga agggagagta tgagattgct gaaggcatca gtgcaactgt atttcgcaca  
660  
gtgctggatt attacaaaac cggatcatc aattgtcctg atggcatctc tatcccagat  
720  
cttagagata cttgtgatta tctctgcatt aattttgact tcaacactat ccgatgtcaa  
780  
gatctgagtg ctttactcca tgaactgtct aatgacggtg ctcataagca gtttgatcac  
840  
tacctcgaag agctcatctt gccatcatg gtgggctgtg ccaagaaagg agaacgagag  
900  
tgccacattg ttgtgctgac ggatgaggat tctgtggact gggatgaaga ccacctcca  
960  
ccaatggggg aggaatatcc ccaaattctt tatagctcca agctctacag attcttcaaa  
1020  
tatattgaga atagggatgt tgcaaaaaca gtgttaaagg aacggggcct aaaaaacatt  
1080  
cgcattggaa ttgaaggtta ccctacctgt aaagaaaaaa ttaagagaag gcctggcggc  
1140  
cgttctgaag tcattataa ttatgtacaa cgtcccttca tccagatgtc atgggaaaag  
1200  
gaagaaggga agagtcgcca tgtggatttc cagtgtgttc gaagcaaata cctcacgaat  
1260  
ctggtagctg ctggagatga tgtcttggag gaccaggaga tattaatgca tcaccacccc  
1320  
caagtggatg aactt  
1335

<210> 4674

<211> 402  
 <212> PRT  
 <213> Homo sapiens

<400> 4674

```

Met Asn Val His Arg Gly Ser Asp Ser Asp Arg Leu Leu Arg Gln Glu
 1           5           10           15
Ala Ser Cys Leu Val Asp Asp Thr Leu Ala Val Ala Gln Glu Lys Glu
 20           25           30
Ala Asn Ser Leu Ala Ser Ser Gly Pro His Asn Leu Thr Tyr Pro Leu
 35           40           45
Gly Pro Arg Asn Glu Asp Leu Ser Leu Asp Tyr Ala Ser Gln Pro Ala
 50           55           60
Asn Leu Gln Phe Pro His Ile Met Pro Leu Ala Glu Asp Ile Lys Gly
 65           70           75           80
Ser Cys Phe Gln Ser Gly Asn Lys Arg Asn His Glu Pro Phe Ile Ala
 85           90           95
Pro Glu Arg Phe Gly Asn Ser Ser Val Gly Phe Gly Ser Asn Ser His
 100          105          110
Ser Gln Ala Pro Glu Lys Val Thr Leu Leu Val Asp Gly Thr Arg Phe
 115          120          125
Val Val Asn Pro Gln Ile Phe Thr Ala His Pro Asp Thr Met Leu Gly
 130          135          140
Arg Met Phe Gly Pro Gly Arg Glu Tyr Asn Phe Thr Arg Pro Asn Glu
 145          150          155          160
Lys Gly Glu Tyr Glu Ile Ala Glu Gly Ile Ser Ala Thr Val Phe Arg
 165          170          175
Thr Val Leu Asp Tyr Tyr Lys Thr Gly Ile Ile Asn Cys Pro Asp Gly
 180          185          190
Ile Ser Ile Pro Asp Leu Arg Asp Thr Cys Asp Tyr Leu Cys Ile Asn
 195          200          205
Phe Asp Phe Asn Thr Ile Arg Cys Gln Asp Leu Ser Ala Leu Leu His
 210          215          220
Glu Leu Ser Asn Asp Gly Ala His Lys Gln Phe Asp His Tyr Leu Glu
 225          230          235          240
Glu Leu Ile Leu Pro Ile Met Val Gly Cys Ala Lys Lys Gly Glu Arg
 245          250          255
Glu Cys His Ile Val Val Leu Thr Asp Glu Asp Ser Val Asp Trp Asp
 260          265          270
Glu Asp His Pro Pro Pro Met Gly Glu Glu Tyr Ser Gln Ile Leu Tyr
 275          280          285
Ser Ser Lys Leu Tyr Arg Phe Phe Lys Tyr Ile Glu Asn Arg Asp Val
 290          295          300
Ala Lys Thr Val Leu Lys Glu Arg Gly Leu Lys Asn Ile Arg Ile Gly
 305          310          315          320
Ile Glu Gly Tyr Pro Thr Cys Lys Glu Lys Ile Lys Arg Arg Pro Gly
 325          330          335
Gly Arg Ser Glu Val Ile Tyr Asn Tyr Val Gln Arg Pro Phe Ile Gln
 340          345          350
Met Ser Trp Glu Lys Glu Glu Gly Lys Ser Arg His Val Asp Phe Gln
 355          360          365
Cys Val Arg Ser Lys Ser Leu Thr Asn Leu Val Ala Ala Gly Asp Asp
 370          375          380
Val Leu Glu Asp Gln Glu Ile Leu Met His His Pro Pro Gln Val Asp

```

385  
Glu Leu

390

395

400

<210> 4675  
<211> 2868  
<212> DNA  
<213> Homo sapiens

<400> 4675  
ngaattcccc ggttgattct tcggccccat atgccccaac aacagcacaa agtgtcccca  
60  
gcctctgagt ctcttttctc tgaggaagag agcagagagt tcaaccccag cagctctggg  
120  
cgctcagcga ggaccgttag cagcaacagc ttctgctcag atgacacagg ctgtcctagc  
180  
agccagtcag tgtctcctgt gaagacaccc tcagatgctg gaaacagccc cattggcttt  
240  
tgccctggaa gtgatgaagg cttcaccaga aagaaatgca cgattggaat ggttggtgaa  
300  
ggaagcattc agtcctctcg atataagaag gaatcaaagt caggccttgt gaaaccaggt  
360  
agtgaagctg attttagctc ctcgagcagc acaggcagca ttccgctcc tgaggtccat  
420  
atgtcgactg cgggaagcaa gcggtcttct tcttcacgca atcgaggtcc tcatgggcgg  
480  
agtaatggag cttcgtcaca caagcctggc agcagctcat catccccgcg ggaaaaggac  
540  
cttctgtcca tgctgtgcag gaatcagctg agccctgtca atatccatcc cagttatgca  
600  
ctttcttccc caagcagtag caactcaggc tcctacaaag gaagcgactg tagccccatc  
660  
atgaggcggt ctggaaggta catgtcttgc ggtgaaaatc atgggtgtcag acccccaaac  
720  
ccagagcagt atttgactcc actgcagcag aaagagggtga cagtgcagaca cctcaaaacc  
780  
aagctgaagg aatctgagcg ccgactccat gaaagggaaa gtgaaatcgt ggagcttaag  
840  
tccagctggg cccgcatgcg agaggactgg attgaggagg agtgtcaccg ggtagaggcc  
900  
cagttggcac tcaaagaagc caggaaagag attaaacagc tcaaacaggt catcgaaacc  
960  
atgcggagca gcttggctga taaagataaa ggcattcaga aatattttgt ggacataaac  
1020  
atccaaaaca agaagctgga gtctctcctt cagagcatgg agatggcaca cagtggctct  
1080  
ctgagggacg aactgtgcct agactttcca tgtgattccc cagagaagag cttaacctc  
1140  
aacccccctc ttgacacaat ggcagatggg ttatctctgg aagagcaggt cacgggggaa  
1200  
ggggctgaca gggagctact ggtaggagat agcatagcca acagcacaga tttgttcgat  
1260  
gagatagtga cagccaccac cacagaatct ggtgacctgg agcttgtgca ttccaccct  
1320

ggggctaacg tectggagct gctgcccata gtcattgggtc aggaggaggg cagtgtgggtg  
1380  
gtggagcgag ccgttcagac cgacgtgggtg ccctacagcc cagccatctc agagctcatt  
1440  
cagagtgtgc tgcagaagct ccaggacccc tgtccctcga gcttggcgtc ccctgatgag  
1500  
tctgaaccag actcgatgga gagcttccca gagtccctct ctgccttagt ggttgattta  
1560  
actccaagaa atccaaactc agccatcctt ttgtctcccg tggagacccc ctacngccaa  
1620  
tgtggatgca gaagtccatg caaacgcctt catgagagag ctggannntt tgcagcctgc  
1680  
gtggaagaga ggttggatgg tgtcatccca ctggctcgcg ggggcgtcgt gaggcagtac  
1740  
tggagcagca gcttccctggg ggatctcctg gctgtggctg ccccggtggg cccacgggt  
1800  
ctgtgggcat tcagtactca gagaggggga acggatcctg tgtataacat cggggccttg  
1860  
ctcaggggct gttgcgtggg tgccctgcat tcgctccgcc gcaccgcctt ccgtatcaaa  
1920  
acctaaatag aagttgttgt taccgtgtgc caatgtgtcc catgtgggtt gtgccaggta  
1980  
gagaaacagg aagtcaatca tctgtgacag tctctattct gtcgttttgc tccttggtat  
2040  
ttgatttgca ctatatttag ttgaagcctg ttcactgttt aaaaccggag gtatcttcaa  
2100  
aggcatggag acctgggttc agtaaatgtc ccaccagtgg ggtatagaaa gcatgctcat  
2160  
gaccctgccg tgcgtctga ggtaccggtt cttatcctag tgggttcagga agagaaaacg  
2220  
cagtttgcac tttcaagaca gcttctctaa ggctggcatg ttatctcctt gctttgcttt  
2280  
ttgcggtttt aaaatgtgta attgttccag cattccaatg gtcttgtgca tagcagggga  
2340  
ctgtaaccaa aaataaacat gtatttgtgt aattgggttg aagaagtctt gaatagctct  
2400  
ttactgtctt acttgggggtt gataagattt gagtgtttgc aattttttac taaatgtagc  
2460  
tccaaagtct taaatggctt gtttgttctt aaactgttaa ttgatgaaac tgtgcataag  
2520  
tttacaatgt actaacttat tttgcttatt atatatagtg ttttattgga aattgtaacc  
2580  
acacacttca gcatgatgaa aataaagatt agtgtttcca tttaaataaa tgttttatcc  
2640  
tcccataaaa taataattat ttctgtgatt ttacttctat gtataagaaa gacaatgaat  
2700  
agcagatctt acatctttat caataggggg tctgtaaaaa ttgaattaaa ttaggaagag  
2760  
ggaaaaagag ttagttatta aagaaaatga agatttctta cccttactta aaaagcatca  
2820  
tttctgaata aaagtagatt tgtttacttt taaaaaaaaa aaaaaaaa  
2868

&lt;210&gt; 4676

<211> 641  
 <212> PRT  
 <213> Homo sapiens

<400> 4676

```

Xaa Ile Pro Arg Leu Ile Leu Arg Pro His Met Pro Gln Gln Gln His
 1           5           10           15
Lys Val Ser Pro Ala Ser Glu Ser Pro Phe Ser Glu Glu Glu Ser Arg
          20           25           30
Glu Phe Asn Pro Ser Ser Ser Gly Arg Ser Ala Arg Thr Val Ser Ser
          35           40           45
Asn Ser Phe Cys Ser Asp Asp Thr Gly Cys Pro Ser Ser Gln Ser Val
          50           55           60
Ser Pro Val Lys Thr Pro Ser Asp Ala Gly Asn Ser Pro Ile Gly Phe
65          70          75          80
Cys Pro Gly Ser Asp Glu Gly Phe Thr Arg Lys Lys Cys Thr Ile Gly
          85          90          95
Met Val Gly Glu Gly Ser Ile Gln Ser Ser Arg Tyr Lys Lys Glu Ser
          100          105          110
Lys Ser Gly Leu Val Lys Pro Gly Ser Glu Ala Asp Phe Ser Ser Ser
          115          120          125
Ser Ser Thr Gly Ser Ile Ser Ala Pro Glu Val His Met Ser Thr Ala
          130          135          140
Gly Ser Lys Arg Ser Ser Ser Ser Arg Asn Arg Gly Pro His Gly Arg
145          150          155          160
Ser Asn Gly Ala Ser Ser His Lys Pro Gly Ser Ser Ser Ser Ser Pro
          165          170          175
Arg Glu Lys Asp Leu Leu Ser Met Leu Cys Arg Asn Gln Leu Ser Pro
          180          185          190
Val Asn Ile His Pro Ser Tyr Ala Pro Ser Ser Pro Ser Ser Ser Asn
          195          200          205
Ser Gly Ser Tyr Lys Gly Ser Asp Cys Ser Pro Ile Met Arg Arg Ser
210          215          220
Gly Arg Tyr Met Ser Cys Gly Glu Asn His Gly Val Arg Pro Pro Asn
225          230          235          240
Pro Glu Gln Tyr Leu Thr Pro Leu Gln Gln Lys Glu Val Thr Val Arg
          245          250          255
His Leu Lys Thr Lys Leu Lys Glu Ser Glu Arg Arg Leu His Glu Arg
          260          265          270
Glu Ser Glu Ile Val Glu Leu Lys Ser Gln Leu Ala Arg Met Arg Glu
          275          280          285
Asp Trp Ile Glu Glu Glu Cys His Arg Val Glu Ala Gln Leu Ala Leu
290          295          300
Lys Glu Ala Arg Lys Glu Ile Lys Gln Leu Lys Gln Val Ile Glu Thr
305          310          315          320
Met Arg Ser Ser Leu Ala Asp Lys Asp Lys Gly Ile Gln Lys Tyr Phe
          325          330          335
Val Asp Ile Asn Ile Gln Asn Lys Lys Leu Glu Ser Leu Leu Gln Ser
          340          345          350
Met Glu Met Ala His Ser Gly Ser Leu Arg Asp Glu Leu Cys Leu Asp
          355          360          365
Phe Pro Cys Asp Ser Pro Glu Lys Ser Leu Thr Leu Asn Pro Pro Leu
370          375          380
Asp Thr Met Ala Asp Gly Leu Ser Leu Glu Glu Gln Val Thr Gly Glu

```

```
<210> 4677
<211> 940
<212> DNA
<213> Homo sapiens
```

```
<400> 4677
nngcggctga gacagtgaag ttctctagag caaacttctc aggaggccgc gcaactccggg
60
ttgggttcat acgccgcgtg atctgtccct ccgagaaggc ccgcctcact gtcttcttcc
120
tagaagctga ggttgggggtt cgtactggga agaaatctgg catcgagttc aattccgcc
180
ataactgggc aagcatggct ttgttctcct tgatgttcat ggtccttttc agtaaagcat
240
ctgaactctc ctggctctca tcccgagagt cctctcaga ctgagaggta gaatcttccc
300
tttgtatcac ctgtctacac tctttctttc tttcaagaat tgtttttttc tcattctgta
360
aggtcgcta gaaaacaact gctcggaaga actgttttta tctggtttgt tggccagctt
420
```



cttggtgggg aactgaaagg ctactcgaag accaatacta cttcttctag acctgcttct  
 480  
 tctaggggta gcttatcttc ttcttcatct tcctcttcct cgctcaccaa agatgctttg  
 540  
 ccatcatcac tcaaactctga ctccacgacc attacttctg ggtagtctt tccattcaga  
 600  
 tcactctgcg taaatcctgc aaaatcctca gtctctgagt cagtgtcctc tataaaaatt  
 660  
 cttcttagct ctctctgtgaa gtatttggaa tgaaagcgca catcctgctg tttccctgac  
 720  
 tctagttagt caaaactatc gcagctctcc tctgacgaga gggtttccat gggaacatca  
 780  
 tctcggaagc caacaaactc ttcacatca ctgggggcgt taaagatgtc agccacttct  
 840  
 ttagggatct ggtagcgagt cgccaactcc attcttcta accgggctcc agtctcctcc  
 900  
 cagcacgcgg ccacgggagc ccggactcac cacggcccg  
 940

&lt;210&gt; 4678

&lt;211&gt; 133

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4678

Asn	Leu	Pro	Phe	Val	Ser	Pro	Val	Tyr	Thr	Leu	Ser	Phe	Phe	Gln	Glu
1				5					10					15	
Leu	Phe	Phe	Ser	His	Ser	Val	Arg	Cys	Ala	Arg	Lys	Gln	Leu	Leu	Gly
			20					25					30		
Arg	Thr	Val	Phe	Ile	Trp	Phe	Val	Gly	Gln	Leu	Leu	Gly	Gly	Glu	Leu
		35					40					45			
Lys	Gly	Tyr	Ser	Lys	Thr	Asn	Thr	Thr	Ser	Ser	Arg	Pro	Ala	Ser	Ser
	50					55					60				
Arg	Gly	Ser	Leu	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Leu	Thr	Lys
65					70				75						80
Asp	Ala	Leu	Pro	Ser	Ser	Leu	Lys	Ser	Asp	Ser	Thr	Thr	Ile	Thr	Ser
				85					90					95	
Gly	Leu	Val	Phe	Pro	Phe	Arg	Ser	Leu	Cys	Val	Asn	Pro	Ala	Lys	Ser
			100					105					110		
Ser	Val	Ser	Glu	Ser	Val	Ser	Ser	Ile	Lys	Ile	Leu	Leu	Ser	Ser	Ser
		115					120					125			
Val	Lys	Tyr	Leu	Glu											
															130

&lt;210&gt; 4679

&lt;211&gt; 2284

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4679

tttttttttt tttttttttt tttttttttt ttttaccaca aaaacacttg tagagcctgt  
 60  
 ttattgcata actagcaggc acaaattcca aaacgatttt acaacactta aagggcacia  
 120

taattacagg aatagaatgt acaataaaaa gtacagaata atgagtgaca gggatcaaac  
180  
acgttggaat aaaaggcatc tcagttttcc tatgcagcat tttcttttct aggaacacgt  
240  
taccttcaac caggacaagg aaagaaagaa aactatacta ttggaaagct catgggtgcc  
300  
attgaggaca aaaacaggcg agttttgctc ttggttctgc aactgaatca cttgagaagc  
360  
cgtgcacagc tcccaggttg tgcgtttaga attctgatta catgaaatgc tgtgtttgat  
420  
ctttgggccc aattcactgt tctttggcaa ataagaacta tttgcattcc aaggcagatg  
480  
acgattttctg tgaaaggagc ttagaggtag agctgtttcc ttctgttcag tcaagtgcc  
540  
gtttcataaa gtgcacctct gccctatcag ctttggggga aggggtggcat atggggagga  
600  
agggatcatt gagaatacag ggtgaaaaag aacgacgtta ctgaaggtag acattgctag  
660  
tgcaaggtag ggaatccatg tgcaaaagggt ggctggaaca aatgttcaga taaggtagcga  
720  
tttgccaaca ggagcagaga actctgacac cagatctcag atgaggccaa ggaaatgcgc  
780  
ggggcacata cagagaggac gacctgcagc cctccaatgg ccacgtcatt ccaccgggga  
840  
acttgttttg agttttggca ccgtgggcta accgagcact cttctgacat attcttacia  
900  
ctggaaatgc tttgttggtc cccatgttcc ttgactttct ctaggggccat aaaggcaaca  
960  
tcttctattg caggctctca aacattccaa ggaaaacact gcttcacctc ctgcagacag  
1020  
ctcattttcc agaagcctct acagaagccc gtctccctg ggacagcagg ggcaggggtt  
1080  
tgcaagataa aggagggtag gctaaaggaca tgaagcctgc agaaaaggct atcagatggc  
1140  
gcctgaactt aagggtggag gcccccttct agaaggcatc ccgggagcat ccaacagcaa  
1200  
tgtggcactt agggctgttg gacaaacaag tggaagagtc ttttgagac gtggaccctt  
1260  
ttcccatgct actcacagtg aagcaaatg cgacaaaagc atccacacac ggtgacttag  
1320  
taaagcaagc accgtcgggg tgctactttc atgacagcat atggtaagc tataaagggtg  
1380  
tgcacgatc agtcctgtga aaatagaagc ttagttatta gcatgtattg aggaacttg  
1440  
tactttgatt cttgtgtctt cttcacatgt gtgaatgact gctatgggac agaacatatg  
1500  
gttaaaaaaca ggagcgacag caacataaca cacagggttg gccggctcca ttacgggtaa  
1560  
gactcagagg ctgctccagg tgtgtccggg gaagccaggc cctcacactg cacagcttac  
1620  
agggccctgg ggtgggggct gtgagctggc agcctagagg acacagctca cctgcacatg  
1680  
gtctctgaaa gtgttcaa atgtttgcaa catttataaa tggagagatg gcacaaaaa  
1740

acatctaggt ttcttgtctc ttgaaaaatc aaagctgtgg ccaccctagg cccacttttc  
 1800  
 cacatggcaa caggcgtgga gctgggggct actgccccta ctgtgtaggc ggtgggctcc  
 1860  
 ccatagtctc ctctgccctg ctgccgtgta cctggctccc ttcactcadc cacatcacg  
 1920  
 gccctaggcc agggctctgaa ccacacacac agaatggctg cagtaagcag gaacgggaag  
 1980  
 agctttcaca ttcagaacaa gaaggggctt ttgagtaact aaaaaacaat ctgagcatgt  
 2040  
 tccagcactt caaccttact ctttcagagc tttggggtag caggcagcca gctagagcac  
 2100  
 actctctaag gaactcttga aagttgatgt ctaattttta agtactcatg aggtgatgga  
 2160  
 ggagaaacta actcagatga ctgcgatacg atacatcttt ccttataaga agtccttaaa  
 2220  
 gatgatgaaa aatgtgaagc aactcatgtg agaaagctgt aagtggtcag agaagcaagc  
 2280  
 tgac  
 2284

&lt;210&gt; 4680

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4680

Met	Arg	Gly	Ala	His	Thr	Glu	Arg	Thr	Thr	Cys	Ser	Pro	Pro	Met	Ala
1				5					10					15	
Thr	Ser	Phe	His	Arg	Gly	Thr	Cys	Leu	Glu	Phe	Trp	His	Arg	Gly	Leu
			20					25					30		
Thr	Glu	His	Ser	Ser	Asp	Ile	Phe	Leu	Gln	Leu	Glu	Met	Leu	Cys	Trp
		35					40					45			
Ser	Pro	Cys	Ser	Leu	Thr	Phe	Ser	Arg	Ala	Ile	Lys	Ala	Thr	Ser	Ser
	50					55					60				
Ile	Ala	Gly	Pro	Gln	Thr	Phe	Gln	Gly	Lys	His	Cys	Phe	Thr	Ser	Cys
65				70					75					80	
Arg	Gln	Leu	Ile	Ser	Gln	Lys	Pro	Leu	Gln	Lys	Pro	Val	Leu	Pro	Gly
			85					90					95		
Thr	Ala	Gly	Ala	Gly	Val	Cys	Lys	Ile	Lys	Glu	Gly	Gln	Leu	Arg	Thr
			100					105					110		

&lt;210&gt; 4681

&lt;211&gt; 906

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4681

tttttttttt tttttttttt gcaaattggtt tttttttttt ttttttttcc acatttatat  
 60  
 cacaaggtgt ccacttactg gaccaaatag caaagttgct cccttctgcg tcctgagaac  
 120  
 acagaagtct aggtactgta cattcactaa ggctccttgt ttttgcaaatt cgcgtttatg  
 180

acaaataacc ataaggcaaa cgaatctaaa ggaatgggta tgagtgtttc cagcgtacag  
 240  
 acaggtcttc cccctcgccc cacagtacag cataaaacca gtagcaccca caataacttt  
 300  
 tgtgttggtt tgggggggact ctagaaagggt gaagttttct agatgtgtac aggaagggaa  
 360  
 aaaagaaaag ggaggaagaa aggaaagggt tttttgtctg gtgggtctgat ggaagaggaa  
 420  
 ttgtttaaaa taaacatgag aaaacttaaa tttttgcagc atttctttaa aaactggggt  
 480  
 ataactgaaa ccagatataa acaggtgggt gcccatggag tgtgggtcac actggctggc  
 540  
 cagctggccc gcctgccc aa tgccagtggc tcaccacagc tgagaagctt ctggcacatg  
 600  
 acagacaaca ctggcctgac agtggctggg tagggagcaa acagaggcag tggcatggcc  
 660  
 cactgtctca agacactcag ggccaaatta aagaacagaa aatgcaagag agatgagatg  
 720  
 cgtgcttctg ttgctgtgtt aaaggtgacc tctccacag gttttctgtg cctgcctgca  
 780  
 actgaggccc cagctttcag gtgctggaaa gtgtccgcac ctctttgggg gtgagggact  
 840  
 aacgcttttt atagctgggt tgctatagag ttctgaactc actttgccgt ccttccctec  
 900  
 acgct  
 906

&lt;210&gt; 4682

&lt;211&gt; 153

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4682

Met	Gly	Ser	His	Leu	Phe	Ile	Ser	Gly	Phe	Ser	Tyr	Asn	Pro	Val	Phe
1				5				10						15	
Lys	Glu	Met	Leu	Gln	Lys	Phe	Lys	Phe	Ser	His	Val	Tyr	Phe	Lys	Gln
			20					25					30		
Phe	Leu	Phe	His	Gln	Thr	Thr	Arg	Gln	Lys	Asn	Leu	Ser	Phe	Leu	Pro
			35					40				45			
Pro	Phe	Ser	Phe	Phe	Pro	Ser	Cys	Thr	His	Leu	Glu	Asn	Phe	Thr	Phe
	50					55					60				
Leu	Glu	Ser	Pro	Gln	Asn	Thr	Lys	Val	Ile	Val	Gly	Ala	Thr	Gly	
65				70					75					80	
Phe	Met	Leu	Tyr	Cys	Gly	Ala	Arg	Gly	Lys	Thr	Cys	Leu	Tyr	Ala	Gly
			85					90					95		
Asn	Thr	His	Asn	His	Ser	Phe	Arg	Phe	Val	Cys	Leu	Met	Val	Ile	Cys
			100					105					110		
His	Lys	Arg	Asp	Leu	Gln	Lys	Gln	Gly	Ala	Leu	Val	Asn	Val	Gln	Tyr
		115				120						125			
Leu	Asp	Phe	Cys	Val	Leu	Arg	Thr	Gln	Lys	Gly	Ala	Thr	Leu	Leu	Phe
	130					135					140				
Gly	Pro	Val	Ser	Gly	His	Leu	Val	Ile							
145					150										

<210> 4683  
<211> 3246  
<212> DNA  
<213> Homo sapiens

<400> 4683  
nctcctgcct ccctgcaggg agctgcttat gggacaccgc ttcctgcgcg gcctcttaac  
60  
gctgctgctg ccgccgccac ccctgtatac ccggcaccgc atgctcggtc cagagtcctg  
120  
ccgcceccca aaacgatccc gcagcaaact catggcaccg cccgaatcgg gacgcacaat  
180  
ggcaccttcc actgcgacga ggcactggca tgcgcactgc ttcgcctcct gccggagtag  
240  
cgggatgcag agattgtgcg gacccgggat ccgaaaaac tcgcttcctg tgacatcgtg  
300  
gtggacgtgg ggggcgagta cgaccctcgg agacaccgat atgaccatca ccagaggtct  
360  
ttcacagaga ccatgagctc cctgtccctt gggaagccgt ggcagaccaa gctgagcagt  
420  
gcgggactca tctatctgca cttcggggcac aagctgctgg ccagttgct gggcactagt  
480  
gaagaggaca gcatggtggg caccctctat gacaagatgt atgagaactt tgtggaggag  
540  
gtggatgctg tggacaatgg gatctcccag tgggcagagg gggagcctcg atatgcactg  
600  
accactaccc tgagtgcacg agttgctcga cttaatccta cctggaacca ccccgaccaa  
660  
gacactgagg caggggtcaa gcgtgcaatg gatctggttc aagaggagtt tctgcagaga  
720  
ttagatttct accaacaacag ctggctgcca gcccgggcct tgggtggaaga ggcccttgcc  
780  
cagcgattcc aggtggaccc aagtggagag attgtggaac tggcgaaagg tgcattgccc  
840  
tggaaggagc atctctacca cctggaatct gggctgtccc ctccagtggc catcttcttt  
900  
gttatctaca ctgaccaggc tggacagtgg cgaatacagt gtgtgcccac ggagccccac  
960  
tcattccaaa gccggctgcc cctgccagag ccatggcggg gtcttcggga cgaggccctg  
1020  
gaccaggtca gtgggatccc tggctgcac ttcgtccatg caagcggett cattggcggt  
1080  
caccgcaccc gagaggggtgc cttgagcatg gcccggtcca ccttggccca gcgctcatac  
1140  
ctcccacaaa tctcctagtc taataaaacc ttccatctca tactgaccca gtccttgact  
1200  
tattcttgcc ctacaccatt ccagaaactt gtgaaaagtg aaacaactat ttatgtgtaa  
1260  
gacctgtgct tagatatatt ttcttcacag taacttctca gccttgcttc ccaaatcatt  
1320  
tgaaaccaca gtttctagga ttaaataacg tgaccaaatt cacaagtggc taaaaagtga  
1380  
cagaacaggg ccttaacca aagtccatgc ttttttcccc tactgtaccc cactgcaact  
1440

ccctggaaaa gacagactgg taactgagtg gaaaacaaaa ggaaaactta tttattctta  
1500  
gaggtgggaa tgtggggagt ggggcagaac aggtggtggc cctgggagag ggtcccaagg  
1560  
ggcagagggt ggggatgtct cagtaaagag gggcaggtca tgaatagagc ctccaccccc  
1620  
agcaggggggt tcctgggccc gcccaagcac tgggctaaaa cgtggaaact gggcattgac  
1680  
aaagtacagc gggatgtggg caattcggcc tgtggaccag ccacactga gcaggggccc  
1740  
tttgttgaag gaaggatgga aagtgatgag ctggggctgg gctcctggct ccccttggat  
1800  
aatgccacag ggaaggagct caaacacagg gctgtttcga gtgcgaaaaa ggaggatgac  
1860  
tggtttacca tcctgtaccc ttggctttcc tttcataagc acagccagac gttccccact  
1920  
gggtcccag accatggagt gagcctctcc cccaagcctc tcctcaccat ctggtgtctg  
1980  
tattgttgtc tcagacagat ctgccacaat cgttgttgac tttgcacctc caacgcaccc  
2040  
ctttccctca ccacaacgtt ctggaaaaga caggagtaa atcagtggct ctcccaatac  
2100  
agtgaacagc agtcggctgc catctgggct ccagcagcca gtctgacagc gccctgatag  
2160  
agtaggccac ctctcacaag tccacatctg ggccctccag actcgaaaga cagctgaagg  
2220  
agtggtagcc aggattttgc tgccgtctgg ggaccagagc aggttgggtca cccacctcc  
2280  
tcgaaaccag ggaaggggga cacaggctctc tgttgagaca tcccataccc ggatagcagc  
2340  
atccacgggt gaagctgaga gcagccgcc cccactgggg gcccaggcca agctggtaac  
2400  
aggtgtatgc ccagggtgag acagcacttg ggcacagcca gaagaggggtc gggtagacaa  
2460  
ggaggtaggg tccagggtcc agataagaat gcagctctgg caggccacag ccaagacaga  
2520  
ggcactaagg ggcttccagg ccagagacgc cacatttcgc tgcagccgggt gcttcaggga  
2580  
ggggactatg gtgctgctgg cattatacac acggactgag tcacttagca gggccactgc  
2640  
aaacttggtg gtgtgggggt ggcattgcaa gacacgcaag cagcagctgg accaatttgt  
2700  
gacttgggca aattcagcga tcagatcttc gctcctgaga gacagatggg ggaacaggga  
2760  
cccatggagg gaagaggccc atcgacagag tgccagggcc cagccggatg ccgtcttcac  
2820  
ccactcaaac acctcttctt ctgagtttgc aatttcattt agcaccceaa aaaggccac  
2880  
atcacgceaa atgttgatgc atctcttcca cacttgctcc cggatgatgga tgaaggcagt  
2940  
tcttgtgcca tgggtccagcc ttccaggggt ctttagggga tcctttgtca gttgtaggac  
3000  
aggaagattg atccactggc cccggaagtc ggggggcggg ctctcatagc tactgcccgt  
3060

caccagctcg ttattgtgct catatagggt gacttgaccc cgaggcgggtg gaggagggaa  
 3120  
 caaccccgaga gagcacatct tgccgggttcg caggacgtct gcagtcggca aactcctggc  
 3180  
 cggaacggca cagaccgcac tcccgcgaact cggttcccgg gctagattcg tatgcggacg  
 3240  
 ggtacc  
 3246

<210> 4684

<211> 385

<212> PRT

<213> Homo sapiens

<400> 4684

Xaa	Pro	Ala	Ser	Leu	Gln	Gly	Ala	Ala	Tyr	Gly	Thr	Pro	Leu	Pro	Ala	1	5	10	15
Arg	Pro	Leu	Asn	Ala	Ala	Ala	Ala	Ala	Ala	Thr	Pro	Val	Tyr	Pro	Ala	20	25	30	
Pro	His	Ala	Arg	Ser	Arg	Val	Arg	Pro	Ala	Pro	Lys	Thr	Ile	Pro	Gln	35	40	45	
Gln	Thr	His	Gly	Thr	Ala	Arg	Ile	Gly	Thr	His	Asn	Gly	Thr	Phe	His	50	55	60	
Cys	Asp	Glu	Ala	Leu	Ala	Cys	Ala	Leu	Leu	Arg	Leu	Leu	Pro	Glu	Tyr	65	70	75	80
Arg	Asp	Ala	Glu	Ile	Val	Arg	Thr	Arg	Asp	Pro	Glu	Lys	Leu	Ala	Ser	85	90	95	
Cys	Asp	Ile	Val	Val	Asp	Val	Gly	Gly	Glu	Tyr	Asp	Pro	Arg	Arg	His	100	105	110	
Arg	Tyr	Asp	His	His	Gln	Arg	Ser	Phe	Thr	Glu	Thr	Met	Ser	Ser	Leu	115	120	125	
Ser	Pro	Gly	Lys	Pro	Trp	Gln	Thr	Lys	Leu	Ser	Ser	Ala	Gly	Leu	Ile	130	135	140	
Tyr	Leu	His	Phe	Gly	His	Lys	Leu	Leu	Ala	Gln	Leu	Leu	Gly	Thr	Ser	145	150	155	160
Glu	Glu	Asp	Ser	Met	Val	Gly	Thr	Leu	Tyr	Asp	Lys	Met	Tyr	Glu	Asn	165	170	175	
Phe	Val	Glu	Glu	Val	Asp	Ala	Val	Asp	Asn	Gly	Ile	Ser	Gln	Trp	Ala	180	185	190	
Glu	Gly	Glu	Pro	Arg	Tyr	Ala	Leu	Thr	Thr	Thr	Leu	Ser	Ala	Arg	Val	195	200	205	
Ala	Arg	Leu	Asn	Pro	Thr	Trp	Asn	His	Pro	Asp	Gln	Asp	Thr	Glu	Ala	210	215	220	
Gly	Phe	Lys	Arg	Ala	Met	Asp	Leu	Val	Gln	Glu	Glu	Phe	Leu	Gln	Arg	225	230	235	240
Leu	Asp	Phe	Tyr	Gln	His	Ser	Trp	Leu	Pro	Ala	Arg	Ala	Leu	Val	Glu	245	250	255	
Glu	Ala	Leu	Ala	Gln	Arg	Phe	Gln	Val	Asp	Pro	Ser	Gly	Glu	Ile	Val	260	265	270	
Glu	Leu	Ala	Lys	Gly	Ala	Cys	Pro	Trp	Lys	Glu	His	Leu	Tyr	His	Leu	275	280	285	
Glu	Ser	Gly	Leu	Ser	Pro	Pro	Val	Ala	Ile	Phe	Phe	Val	Ile	Tyr	Thr	290	295	300	
Asp	Gln	Ala	Gly	Gln	Trp	Arg	Ile	Gln	Cys	Val	Pro	Lys	Glu	Pro	His				

```

305          310          315          320
Ser Phe Gln Ser Arg Leu Pro Leu Pro Glu Pro Trp Arg Gly Leu Arg
          325          330          335
Asp Glu Ala Leu Asp Gln Val Ser Gly Ile Pro Gly Cys Ile Phe Val
          340          345          350
His Ala Ser Gly Phe Ile Gly Gly His Arg Thr Arg Glu Gly Ala Leu
          355          360          365
Ser Met Ala Arg Ala Thr Leu Ala Gln Arg Ser Tyr Leu Pro Gln Ile
          370          375          380
Ser
385

```

```

<210> 4685
<211> 618
<212> DNA
<213> Homo sapiens

```

```

<400> 4685
nntgtgatgg gcgtgcaggt ggtgggcagg gcctttgcac gggccttgcg gcaggagttt
60
gcagcctcta cccctaataa aggaaccac tcctggagaa gaggcagctc ctagccacct
120
gtccctgtgt ctctcatcct gtgctggtgg caggggtgag ccaccaactc ggaaggccca
180
gggtgaagtg tgggctgctg aggactgagc gatcacccac atgtccacac agccagccgg
240
gccgcagctg atgcccaggg acgcgctgga caccggtctg cagccgcttc caacctctcc
300
ggcctcagcc tccaggaggc acagcagatt ctcaacgtgt ccaagctgag ccctgaggag
360
gtccagaaga actatgaaca cttatttaag gtgaatgata aatccgtggg tggctccttc
420
tacctgcagt caaaggtggt ccgcgcaaag gagcgcttgg atgaggaact caaaatccag
480
gcccaggagg acagagaaaa agggcagatg ccccatagct gactgctcgg ctccccccgc
540
ccaccccgcc gcctctaatt tatagcttgg taataaattt cttttctgca aaaaaagag
600
gctggagtgt gctcgca
618

```

```

<210> 4686
<211> 106
<212> PRT
<213> Homo sapiens

```

```

<400> 4686
Gly Leu Ser Asp His Pro His Val His Thr Ala Ser Arg Ala Ala Ala
1      5      10     15
Asp Ala Arg Gly Arg Ala Gly His Arg Ser Ala Ala Ala Ser Asn Leu
20     25     30
Ser Gly Leu Ser Leu Gln Glu Ala Gln Gln Ile Leu Asn Val Ser Lys
35     40     45
Leu Ser Pro Glu Glu Val Gln Lys Asn Tyr Glu His Leu Phe Lys Val

```



```

      50              55              60
Asn Asp Lys Ser Val Gly Gly Ser Phe Tyr Leu Gln Ser Lys Val Val
65              70              75              80
Arg Ala Lys Glu Arg Leu Asp Glu Glu Leu Lys Ile Gln Ala Gln Glu
      85              90              95
Asp Arg Glu Lys Gly Gln Met Pro His Thr
      100              105

```

<210> 4687  
 <211> 309  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4687
acgcgtcggg gctgagccgg ggtccagcag ccgccgctat ggacatcccg ccgctggccg
60
gcaagatcgc ggcgctgtcg ctgagcgccc tcccgggtgc ctacgcgctc aaccacgtct
120
cggcgctctc gcacccctcg tgggtggcat tgatgagcgc cctaactctg ggtctgcttt
180
tcgtggcggg ctacagcttg tcccatggcg aggtctccta tgaccactc tatgctgggt
240
tcgctgtctt cgccttcacc tcgggtgggg acctcatcat cgctcttcag gaagacagct
300
atgggggggg
309

```

<210> 4688  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4688
Met Asp Ile Pro Pro Leu Ala Gly Lys Ile Ala Ala Leu Ser Leu Ser
1      5      10      15
Ala Leu Pro Val Ser Tyr Ala Leu Asn His Val Ser Ala Leu Ser His
      20      25      30
Pro Leu Trp Val Ala Leu Met Ser Ala Leu Ile Leu Gly Leu Leu Phe
      35      40      45
Val Ala Val Tyr Ser Leu Ser His Gly Glu Val Ser Tyr Asp Pro Leu
      50      55      60
Tyr Ala Gly Phe Ala Val Phe Ala Phe Thr Ser Gly Gly Asp Leu Ile
65      70      75      80
Ile Ala Leu Gln Glu Asp Ser Tyr Gly Gly
      85      90

```

<210> 4689  
 <211> 898  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4689
ncgccccgct cctcgcgccg aatcgctccc ctggacggcg ctcggctggc cctgagcttg
60

```

cgctggcgct ggcggacgcc ggactgtcca ccagcatcag ccccgagga cctgatgttc  
 120  
 ctgctggaca gctcagccag cgtctctcac tacgagttct cccgggttcg ggagtttgtg  
 180  
 gggcagctgg tggctccact gccctggca ccgnnggcc tgcgtgccag tctggtgcac  
 240  
 gtgggcagtc ggccatacac cgagttcccc ttccggccagc acagctcggg tgaggctgcc  
 300  
 caggatgcgg tgcgtgcttc tgcccagcgc atgggtgaca cccacactgg cctggcgctg  
 360  
 gtctatgcca aggaacagct gtttgctgaa gcatcaggtg cccggccagg ggtgccccaa  
 420  
 gtgctggtgt ggggtgacaga tggcggctcc agcgacctg tgggcccccc catgcaggag  
 480  
 ctcaaggacc tgggcgtcac cgtgttcatt gtcagcaccg gccgaggcaa ctctctggag  
 540  
 ctgtcagccg ctgcctcagc cctgccgag aagcacctgc actttgtgga cgtggatgac  
 600  
 ctgcacatca ttgtccaaga gctgaggggc tccattctcg acgcgatgcg gccacagcag  
 660  
 ctccatgcca cggagatcac gtccagcggc ttccgcctgg cctggccacc cctgctgacc  
 720  
 gcagactcgg gctactatgt gctggagctg gtgccagcg cccagccggg ggctgcaaga  
 780  
 cgccagcagc tgccagggaa cgccacggac tggatctggg ccggcctcga cccggacacg  
 840  
 gactacgacg tggcgctagt gcctgagtcc aacgtgcgcc tcttgaggcc ccagatct  
 898

&lt;210&gt; 4690

&lt;211&gt; 299

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4690

Xaa	Pro	Arg	Pro	Ser	Arg	Arg	Ile	Ala	Pro	Leu	Asp	Gly	Ala	Arg	Leu
1				5					10					15	
Ala	Leu	Ser	Leu	Arg	Trp	Arg	Trp	Arg	Thr	Pro	Asp	Cys	Pro	Pro	Ala
			20					25					30		
Ser	Ala	Pro	Glu	Asp	Leu	Met	Phe	Leu	Leu	Asp	Ser	Ser	Ala	Ser	Val
		35					40					45			
Ser	His	Tyr	Glu	Phe	Ser	Arg	Val	Arg	Glu	Phe	Val	Gly	Gln	Leu	Val
	50				55						60				
Ala	Pro	Leu	Pro	Leu	Ala	Pro	Xaa	Ala	Leu	Arg	Ala	Ser	Leu	Val	His
65				70					75					80	
Val	Gly	Ser	Arg	Pro	Tyr	Thr	Glu	Phe	Pro	Phe	Gly	Gln	His	Ser	Ser
			85					90					95		
Gly	Glu	Ala	Ala	Gln	Asp	Ala	Val	Arg	Ala	Ser	Ala	Gln	Arg	Met	Gly
		100					105					110			
Asp	Thr	His	Thr	Gly	Leu	Ala	Leu	Val	Tyr	Ala	Lys	Glu	Gln	Leu	Phe
		115			120						125				
Ala	Glu	Ala	Ser	Gly	Ala	Arg	Pro	Gly	Val	Pro	Lys	Val	Leu	Val	Trp
	130				135						140				
Val	Thr	Asp	Gly	Gly	Ser	Ser	Asp	Pro	Val	Gly	Pro	Pro	Met	Gln	Glu

145                      150                      155                      160  
 Leu Lys Asp Leu Gly Val Thr Val Phe Ile Val Ser Thr Gly Arg Gly  
                                  165                      170                      175  
 Asn Phe Leu Glu Leu Ser Ala Ala Ala Ser Ala Pro Ala Glu Lys His  
                                  180                      185                      190  
 Leu His Phe Val Asp Val Asp Asp Leu His Ile Ile Val Gln Glu Leu  
                                  195                      200                      205  
 Arg Gly Ser Ile Leu Asp Ala Met Arg Pro Gln Gln Leu His Ala Thr  
                                  210                      215                      220  
 Glu Ile Thr Ser Ser Gly Phe Arg Leu Ala Trp Pro Pro Leu Leu Thr  
 225                                   230                                   235                                   240  
 Ala Asp Ser Gly Tyr Tyr Val Leu Glu Leu Val Pro Ser Ala Gln Pro  
                                  245                                   250                                   255  
 Gly Ala Ala Arg Arg Gln Gln Leu Pro Gly Asn Ala Thr Asp Trp Ile  
                                  260                                   265                                   270  
 Trp Ala Gly Leu Asp Pro Asp Thr Asp Tyr Asp Val Ala Leu Val Pro  
                                  275                                   280                                   285  
 Glu Ser Asn Val Arg Leu Leu Arg Pro Gln Ile  
                                  290                                   295

<210> 4691  
 <211> 2375  
 <212> DNA  
 <213> Homo sapiens

<400> 4691  
 ntggatctga aagccaaaat gccagatgac catgcacgaa aaatdddgtct tccccgtatt  
 60  
 aataactata ctatcccaga agaagaaatt ggggtcttct tatttcatgc tattaataag  
 120  
 ccaaagtgtc ctatctggct cataactcaat gaagctggac tatactggag agcagtagga  
 180  
 aatagcactt ttgctattgc ctgtcttcag agggctttga atttagctcc acttcaatac  
 240  
 caagatgttc ctcttgtaa cttggccaac cttttgatcc attacggcct tcatcttgat  
 300  
 gccactaagc tgctacttca agctttggcc atcaatagct ctgagcctct gacctttttg  
 360  
 agcctgggaa atgcttacct tgctctgaag aatatcagtg gggcacttga ggcctttaga  
 420  
 caggccttga aattaaccac caaatgtcca gagtgtgaaa acagcctgaa gttgatccgc  
 480  
 tgtatgcagt tttatccttt tctgtacaac atcacttctt ctgtttgcag tggtaattgt  
 540  
 catgagaaaa ccctggacaa cagccatgac aaacagaaat attttgacaa ctcacagtca  
 600  
 ctggatgctg ctgaagaaga gccctctgag agaggaacag aggaggaccc tgtattctct  
 660  
 gttgagaatt cagggaggga ctcagatgcc cttagacttg aaagtacggg ggttgaggag  
 720  
 agcaatgggt ctgatgagat ggagaattca gatgaaacca aaatgtcaga agaaatactg  
 780  
 gctttggtgg atgaatttca acaggcatgg cttttggaag gctttggggg tgcactagag  
 840

atgaaagggc ggcgtctaga cttacaagga atacgggtgc tgaagaaagg tccccaggat  
900  
ggagtggcca gaagctcttg ctatggagac tgcagaagtg aagatgatga agcaacagaa  
960  
tggattacat tccagggtcaa acgtgttaaag aaacccaaag gagatcataa gaaaactcct  
1020  
gggaaaaaag tagaaacagg tcagatagaa aatggacatc gttaccaagc aaacctagag  
1080  
atcactggcc ccaagggtggc atctcctggg ccacaagggc tactagactg gaagaccagg  
1140  
aaagtgccat agacataatg taactggatt tcagcaaggc atttaacaga gcctcttatg  
1200  
atctccttgt gaaccagatg gagagatgtg ggcttgaagc cttcccattg cctacaggat  
1260  
aaaattcaaa cttcctagtg tgggtgtacaa gaccctttac agcccgccctc tgtgtaccct  
1320  
tcaacaccat tctctgaacc aacctgctc atgtttttac ctcagtgcct ttgcacatgc  
1380  
tattccctct gcctggaatg cctgtgccc cctctgccct ctgccgtgct aaaatatcac  
1440  
tcctccttaa acttcaaaat caagtgccat ctcttccttg ttaccttcag gcagaattaa  
1500  
ttactctttc ctctgtgcaa ttgttctata tcttgcctct agctcttttc ctgttgatt  
1560  
gtaatgattt gtttatgtt accttcctta ctagactgtg agctcaagag caggccgtct  
1620  
taattattcc tttctgtacc cctagtgtct tttatggttc tcagccctt ataacagggtg  
1680  
ctcaataaat atttttcaaa tgaaattatt aaatgtaaaa gaaaattaag attttttgtg  
1740  
aaaattatgg cttatttaag ttattaattt aaacagagtt aatttgaaac tcttccaaaa  
1800  
ctgttccttt ctgttttgtt aaaatctcaa tctaaacccc tgccgtgacc tcaaacagtt  
1860  
ttctactgtt cgtaaatcc tataatataa aaagcgctat acagaactaa agttctcctt  
1920  
cctgcctatt ccattataac tccttcagaa aacccttccc agacaagaca gttctgctct  
1980  
tttcttgggg gatttgatgt aagtaaaggg cccacaccca aaagggtggg acttacgaag  
2040  
gatattaata aacagagctt taaatttttt tgtagcttta aatagcttgt tgattgggaa  
2100  
catacagtt agagtcaaac agactcctag tctgccagtt gctagccagg tgacctggac  
2160  
aagtcactta gtctctctga gtctctgttt tctcatctga gaaatgaggg ttaaaaccta  
2220  
cttcaggcca gatgcagtgg ctcacatctg taatcccagc actttgggag gccagggtgg  
2280  
gaggatcact tgagtccagg aggttaaggc tccagaaagc tagtatcatc cacggactct  
2340  
acctggggcaa gaaagcaagg tgctgtctct aactt  
2375

&lt;210&gt; 4692

&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4692

```

Xaa Asp Leu Lys Ala Lys Met Pro Asp Asp His Ala Arg Lys Ile Leu
 1           5           10           15
Leu Ser Arg Ile Asn Asn Tyr Thr Ile Pro Glu Glu Glu Ile Gly Ser
 20           25           30
Phe Leu Phe His Ala Ile Asn Lys Pro Asn Ala Pro Ile Trp Leu Ile
 35           40           45
Leu Asn Glu Ala Gly Leu Tyr Trp Arg Ala Val Gly Asn Ser Thr Phe
 50           55           60
Ala Ile Ala Cys Leu Gln Arg Ala Leu Asn Leu Ala Pro Leu Gln Tyr
 65           70           75           80
Gln Asp Val Pro Leu Val Asn Leu Ala Asn Leu Leu Ile His Tyr Gly
 85           90           95
Leu His Leu Asp Ala Thr Lys Leu Leu Leu Gln Ala Leu Ala Ile Asn
100          105          110
Ser Ser Glu Pro Leu Thr Phe Leu Ser Leu Gly Asn Ala Tyr Leu Ala
115          120          125
Leu Lys Asn Ile Ser Gly Ala Leu Glu Ala Phe Arg Gln Ala Leu Lys
130          135          140
Leu Thr Thr Lys Cys Pro Glu Cys Glu Asn Ser Leu Lys Leu Ile Arg
145          150          155          160
Cys Met Gln Phe Tyr Pro Phe Leu Tyr Asn Ile Thr Ser Ser Val Cys
165          170          175
Ser Gly Asn Cys His Glu Lys Thr Leu Asp Asn Ser His Asp Lys Gln
180          185          190
Lys Tyr Phe Asp Asn Ser Gln Ser Leu Asp Ala Ala Glu Glu Glu Pro
195          200          205
Ser Glu Arg Gly Thr Glu Glu Asp Pro Val Phe Ser Val Glu Asn Ser
210          215          220
Gly Arg Asp Ser Asp Ala Leu Arg Leu Glu Ser Thr Val Val Glu Glu
225          230          235          240
Ser Asn Gly Ser Asp Glu Met Glu Asn Ser Asp Glu Thr Lys Met Ser
245          250          255
Glu Glu Ile Leu Ala Leu Val Asp Glu Phe Gln Gln Ala Trp Pro Leu
260          265          270
Glu Gly Phe Gly Gly Ala Leu Glu Met Lys Gly Arg Arg Leu Asp Leu
275          280          285
Gln Gly Ile Arg Val Leu Lys Lys Gly Pro Gln Asp Gly Val Ala Arg
290          295          300
Ser Ser Cys Tyr Gly Asp Cys Arg Ser Glu Asp Asp Glu Ala Thr Glu
305          310          315          320
Trp Ile Thr Phe Gln Val Lys Arg Val Lys Lys Pro Lys Gly Asp His
325          330          335
Lys Lys Thr Pro Gly Lys Lys Val Glu Thr Gly Gln Ile Glu Asn Gly
340          345          350
His Arg Tyr Gln Ala Asn Leu Glu Ile Thr Gly Pro Lys Val Ala Ser
355          360          365
Pro Gly Pro Gln Gly Leu Leu Asp Trp Lys Thr Arg Lys Val Pro
370          375          380

```

<210> 4693  
 <211> 794  
 <212> DNA  
 <213> Homo sapiens

<400> 4693  
 tccggaagtg ccttcgccct ccgtaaagat ggccggggca gtcggcacga gggaggcggg  
 60  
 gatgcgcctg cgcaacaagt tcggcgggga agatggcgga tgacaaggat tctctgccta  
 120  
 agcttaagga cctggcattt ctcaagaacc agctggaaag cctgcagcgg cgtgtagaag  
 180  
 acgaagtcaa cagtggagtg ggccaggatg gtcgctggtt gtctctcccg ttctcaagg  
 240  
 gattcctggc tggctatgtg gtggccaaac tgaggcatc agcagtattg ggctttgctg  
 300  
 tgggcacctg cactggcatc tatgcggctc aggcataatgc tgtgcccaac gtggagaaga  
 360  
 cattaaggga ctatttgcag ttgctacgca agggggccga ctagctctag gtgccatgga  
 420  
 agaggcagga tgagcagctc agccttcagg tggagacact ttatctggat tccccagctg  
 480  
 tcatccattt gctatctcca actttcctgc caccttcate cttgcctccc ttctgcaga  
 540  
 ttgtggacag tagttcctca gcctgcaccc tggattcett ctcccccttc ctagctccat  
 600  
 gggactcgcc ccaagactgt ggcttcaagg accaccagcc ccttactctt caagccctga  
 660  
 ctgtggagt ggtagatgcc tctgatcctc agtattctct ctggcaatgt tccacggctt  
 720  
 ctccttcctg ggagctggct ccataacttg attttcccca aacgtgttgc aatccctgct  
 780  
 gccctttcac gcgt  
 794

<210> 4694  
 <211> 103  
 <212> PRT  
 <213> Homo sapiens

<400> 4694  
 Met Ala Asp Asp Lys Asp Ser Leu Pro Lys Leu Lys Asp Leu Ala Phe  
 1 5 10 15  
 Leu Lys Asn Gln Leu Glu Ser Leu Gln Arg Arg Val Glu Asp Glu Val  
 20 25 30  
 Asn Ser Gly Val Gly Gln Asp Gly Ser Leu Leu Ser Ser Pro Phe Leu  
 35 40 45  
 Lys Gly Phe Leu Ala Gly Tyr Val Val Ala Lys Leu Arg Ala Ser Ala  
 50 55 60  
 Val Leu Gly Phe Ala Val Gly Thr Cys Thr Gly Ile Tyr Ala Ala Gln  
 65 70 75 80  
 Ala Tyr Ala Val Pro Asn Val Glu Lys Thr Leu Arg Asp Tyr Leu Gln  
 85 90 95  
 Leu Leu Arg Lys Gly Pro Asp

100

<210> 4695  
<211> 2209  
<212> DNA  
<213> Homo sapiens

<400> 4695  
nngtgcactg cccacctcct agcctttgcc tgccattccc aggtcctcct gtccttgcca  
60  
gaatacaccc ttctttcaac ggctattcaa agatcacctg gctgcaaagc tttctttcct  
120  
cgcctgtgct tcctccttaa ctatctctag ttaaagctat ctccaccacc aggccacaag  
180  
ctcccagaga acagagatcg tgtttttcat tattctgtcc atttccatcc cccactcccg  
240  
cccacttact gtgtgagtcc agcactgtgt gagtccttga taaaaacgat gagcaaatcc  
300  
ccaggccttg agtgggtcag cagtgaccac atctatccgc agggatccac ggggaagctg  
360  
gtgtgcgccg gataaaggta ggtgggtccct ctggcacagg ccgccctaag gccaaaggccc  
420  
cccagatgca gctattcct ggctccctct gacagatggc aaccgccgat gagattgtga  
480  
aactcatgct cgaccacatg acaaacacca ccaacgcgtc ccatgtgcct gtgcagcccc  
540  
gtgggtagcc tctcgcccgc gtctcccaac ccctctaca cctctgggga ggagacgccc  
600  
agagggtctc acctgggggtg tcatgtctac ccgcaggctc ctgagttgtg atgatgggtca  
660  
acaacctggg tggcctgtca ttcttggaa tgggcatcat agccgacgct accgtccgct  
720  
ccctggggaa cgtgggtcatt tgtgggggta ttgagggatg cctgccagga ggaaatcagg  
780  
acatctcct cccgacctca gagccccagc ttccaaggct cttgcttttc tgttgttttc  
840  
tttccctgat gccattttt cccttttgga ctgccacact ctggtattgc agaggggccgc  
900  
gggggtgaaga ttgcccggtgc cctgggtgggc accttcatgt cagcactgga gatgcctggc  
960  
atttctctca ccctcctgct ggtggatgag cctctcctga aactgataga tgctgaaacc  
1020  
actgcagcag cctggcctaa cgtggctgca gtctccatta ctgggaggaa gcggagccgg  
1080  
gtagcccctg ccgagcccca ggaggccct gattccactg ctgcanngga ggctcagcct  
1140  
cgaagcngga tggcgctggg gctggaacgg gtgtgcagca ctctcctggg cctggaggaa  
1200  
cacctgaatg ccctggaccg ggctgctggg gacggcgact gtggcaccac ccacagccgt  
1260  
gcggccagag caatccagga gtggctgaag gagggccac ccctgccag ccctgccag  
1320  
ctgctctcca agttgtctgt tctgctcctg gagaagatgg gaggctcatc tggggcgctc  
1380

tatggcctgt tcctgactgc ggctgcacag cccctgaagg ccaagaccag cctcccagcc  
1440  
tggctctgctg ccatggatgc cggcctggaa gccatgcaga agtatggcaa ggctgctcca  
1500  
ggggacagga ctatgctgga ttctctgtgg gcagcggagc aggagctcca agcctggaag  
1560  
agcccaggag ctgatctgtt acaagtcctg accaaagcag tcaagagtgc cgaagctgca  
1620  
gccgaggcca ccaagaatat ggaagctgga gccggaagag ccagttatat cagctcagca  
1680  
cggctggagc agccagaccc cggggcggtg gcagctgctg ccacccctccg ggccatcttg  
1740  
gaggctcttg agagctaggg tgtgtgactg cctcccttgg cctcagctcc tctcactgct  
1800  
gtgctgaggt ggcctttgtc acttccttct gccttccaac cctcaccttc ccccggcctg  
1860  
gccccattgg ccaacagaga atccagcata gtccctgtccc ctggagcagc cttgccatac  
1920  
ttctgcatgg cttccaggcc ggcattccatg gcagcagacc aggctggtgt ggggctggag  
1980  
gagatcgcaa agcaggtgaa cgtggtcacc aaggccatgg gtaccctggg ggtgagctta  
2040  
tcctcctgca gcgtccctgg ttccaaaccc accttcgagc tctcagccga cgaggtggag  
2100  
ctgggcctgg ggatccacgg ggaagctggt gtgcgccgga taaagatggc aaccgccgat  
2160  
gagattgtga aactcatgct cgaccacatg acaaacacca ccaacgcgt  
2209

&lt;210&gt; 4696

&lt;211&gt; 302

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4696

Cys	Pro	Phe	Phe	Pro	Phe	Gly	Leu	Pro	His	Ser	Gly	Ile	Ala	Glu	Gly
1				5					10					15	
Arg	Gly	Val	Lys	Ile	Ala	Arg	Ala	Leu	Val	Gly	Thr	Phe	Met	Ser	Ala
			20					25					30		
Leu	Glu	Met	Pro	Gly	Ile	Ser	Leu	Thr	Leu	Leu	Leu	Val	Asp	Glu	Pro
		35					40					45			
Leu	Leu	Lys	Leu	Ile	Asp	Ala	Glu	Thr	Thr	Ala	Ala	Ala	Trp	Pro	Asn
	50				55					60					
Val	Ala	Ala	Val	Ser	Ile	Thr	Gly	Arg	Lys	Arg	Ser	Arg	Val	Ala	Pro
65					70				75					80	
Ala	Glu	Pro	Gln	Glu	Ala	Pro	Asp	Ser	Thr	Ala	Ala	Xaa	Glu	Ala	Gln
			85					90					95		
Pro	Arg	Ser	Xaa	Met	Ala	Leu	Val	Leu	Glu	Arg	Val	Cys	Ser	Thr	Leu
		100					105					110			
Leu	Gly	Leu	Glu	Glu	His	Leu	Asn	Ala	Leu	Asp	Arg	Ala	Ala	Gly	Asp
		115				120					125				
Gly	Asp	Cys	Gly	Thr	Thr	His	Ser	Arg	Ala	Ala	Arg	Ala	Ile	Gln	Glu
	130					135				140					
Trp	Leu	Lys	Glu	Gly	Pro	Pro	Pro	Ala	Ser	Pro	Ala	Gln	Leu	Leu	Ser



145				150					155					160
Lys	Leu	Ser	Val	Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ser	Gly	Ala
			165					170					175	
Leu	Tyr	Gly	Leu	Phe	Leu	Thr	Ala	Ala	Ala	Gln	Pro	Leu	Lys	Ala
			180				185					190		
Thr	Ser	Leu	Pro	Ala	Trp	Ser	Ala	Ala	Met	Asp	Ala	Gly	Leu	Glu
		195				200					205			
Met	Gln	Lys	Tyr	Gly	Lys	Ala	Ala	Pro	Gly	Asp	Arg	Thr	Met	Leu
	210				215					220				
Ser	Leu	Trp	Ala	Ala	Glu	Gln	Glu	Leu	Gln	Ala	Trp	Lys	Ser	Pro
225				230					235				240	
Ala	Asp	Leu	Leu	Gln	Val	Leu	Thr	Lys	Ala	Val	Lys	Ser	Ala	Glu
			245					250					255	
Ala	Ala	Glu	Ala	Thr	Lys	Asn	Met	Glu	Ala	Gly	Ala	Gly	Arg	Ala
		260					265					270		
Tyr	Ile	Ser	Ser	Ala	Arg	Leu	Glu	Gln	Pro	Asp	Pro	Gly	Ala	Val
	275				280						285			
Ala	Ala	Ala	Ile	Leu	Arg	Ala	Ile	Leu	Glu	Val	Leu	Gln	Ser	
	290				295						300			

&lt;210&gt; 4697

&lt;211&gt; 1047

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4697

gctgaatatt gaaattgcct caggtacctc atttctgatt tgtccattat aattttgtat  
 60  
 tggaaagtga ttggtgacaa attttttata atgcatcatt gtgogtcctt gtatgcatac  
 120  
 taccttgtac tgaaaaatgg agtgctggca tacattggga attttcgcct gcttgcagag  
 180  
 catttccagc ccgtttgntg aatcagcgac caaaggctgt agtcactgga aacatggact  
 240  
 tgttttcatc tctaactctc cacctctcca cactcagcct gcagagcccg gccacaacac  
 300  
 aagacagatg ggaccgtggt cagaattcac acaaaagctg aaggatttat ggatgcggat  
 360  
 atacctctgg aattggtggt ccatttgcca gtcaattatc cttcatgtct acctggtatc  
 420  
 tcgattaact ctgaacagtt gaccagggcc cagtgtgtga ctgtgaaaga gaagttactt  
 480  
 gagcaagcag agagcctttt gtcggagcct atgggttcag agctggttct ctggattcag  
 540  
 cagaatctca ggcatatcct cagccaacca gaaactggca gtggcagtga aaagtgtact  
 600  
 ttttcaacaa gcacgaccat ggatgatgga ttgtggataa ctcttttgca tttagatcac  
 660  
 atgagagcaa agactaaata tgtcaaaatt gtggagaagt gggcttcaga tttaaggctg  
 720  
 acaggaagac tgatgttcat gggtaaaata atactgattt tactacaggg agacagaaac  
 780  
 aacctcaagg tgccaaaaag ttaaattgtg agtatgaatc tggctatctt ctgctttaaa  
 840

tgggtgtgtct ttaagtgtgt ttataacaa tgggatagat taattattaa gatgtttctg  
 900  
 ctttcattat tacaacctta atggatcttc cttttctttt taaagaatgt ctgactgcta  
 960  
 attacaagta caaacttgca aagcttgaag aataagattg catttttaaaa atcatgtcac  
 1020  
 ttaataaagt gacaggttat ttaaaaa  
 1047

<210> 4698  
 <211> 182  
 <212> PRT  
 <213> Homo sapiens

<400> 4698  
 Leu Ser Thr Ser Pro His Ser Ala Cys Arg Ala Arg Pro Thr Ile Lys  
 1 5 10 15  
 Thr Asp Gly Thr Val Phe Arg Ile His Thr Lys Ala Glu Gly Phe Met  
 20 25 30  
 Asp Ala Asp Ile Pro Leu Glu Leu Val Phe His Leu Pro Val Asn Tyr  
 35 40 45  
 Pro Ser Cys Leu Pro Gly Ile Ser Ile Asn Ser Glu Gln Leu Thr Arg  
 50 55 60  
 Ala Gln Cys Val Thr Val Lys Glu Lys Leu Leu Glu Gln Ala Glu Ser  
 65 70 75 80  
 Leu Leu Ser Glu Pro Met Val His Glu Leu Val Leu Trp Ile Gln Gln  
 85 90 95  
 Asn Leu Arg His Ile Leu Ser Gln Pro Glu Thr Gly Ser Gly Ser Glu  
 100 105 110  
 Lys Cys Thr Phe Ser Thr Ser Thr Met Asp Asp Gly Leu Trp Ile  
 115 120 125  
 Thr Leu Leu His Leu Asp His Met Arg Ala Lys Thr Lys Tyr Val Lys  
 130 135 140  
 Ile Val Glu Lys Trp Ala Ser Asp Leu Arg Leu Thr Gly Arg Leu Met  
 145 150 155 160  
 Phe Met Gly Lys Ile Ile Leu Ile Leu Leu Gln Gly Asp Arg Asn Asn  
 165 170 175  
 Leu Lys Val Pro Lys Ser  
 180

<210> 4699  
 <211> 1441  
 <212> DNA  
 <213> Homo sapiens

<400> 4699  
 tctttttttt tttttttttt tacagtgatt tcaaacagtt taatgtaatt ccaagacaaa  
 60  
 gtgtgattac atttctacac atatacaata tgcatatgtg agttttacaaa ttttaattaa  
 120  
 taagtcattt cacctcggag accgaaaaaa tgatcaaaaa gaaactatga gtaacaagct  
 180  
 ataacatagt tcaccacaat gggacccccccc cccctttttt ctcaccctac agttagtaat  
 240

attacaatta aaataactat attcttctat attttttctg ttaaaatcat ctcataaatt  
 300  
 tacaatgcta ttattagttt ccaagactaa tataaattca ctccattttt ctacaacgaa  
 360  
 aatgattaat ttagaagcac acgacgtcat gatgaaaaac acaagcattt tagtagcaag  
 420  
 gacttgatca gttaagaatt agtttttctg taaaacattc taaagccaag taaaatatcc  
 480  
 attcttataa catacctata atatgagact aaggaatagg ttacatatag gtctacaaca  
 540  
 cattggtttg tctttaaaaa aacaaaagta gacatttata aataaaaaag agggacaatt  
 600  
 cacataggaa aaagaggtag acgagaaaat actggtgcac gcaataattt tcacacagat  
 660  
 taacatggat taacactttt tattacagaa accgtacggg gaaggaacac aacagaccag  
 720  
 ggctttcata gggttattga gattgagctg agatgacctg ggagagaaaag atctaggtga  
 780  
 gatgacctg gggagggagc cacgttcctt ggacctggtg acttagtgtc gccgggtctc  
 840  
 ctcttcctg ttctcatttt ggggagtgag tctttctatc cagtgtcctg aattcatgag  
 900  
 cagttgaaag gtaaactttt ctgcagatcc attctctttc tctcctaatt gataccattt  
 960  
 ttggaaacgt gacagagtat cagaggctgc agctcagtag acgtggtcaa agcaaaacgg  
 1020  
 gatggaaact tccagtcact ctgatttggt gccccgtca cccactgatg cgcttgaagc  
 1080  
 tgggacccag tgagacagca gcagcaccct acagggcctg ctggctctgc cgtggtgagg  
 1140  
 tggatgacaa gggcacgcgc cacgcctcag ccccatgtgt gcggagtggc ctgggacaca  
 1200  
 gcccattgcac gtccaagaca ccagtcttga ctccgacctc taaagagctc cttctcctca  
 1260  
 tctgtaaaagc tatacttctc ctatccaatt tggtttgata tatatacaca aacatatata  
 1320  
 tcaacatcta tctctataca gtgattctac taaattagaa attctgctgc cccaaagtat  
 1380  
 gactttcttg tctatttcat ttggttaaaa aaatgcacac acagaggatg aagagatgat  
 1440  
 t  
 1441

&lt;210&gt; 4700

&lt;211&gt; 116

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4700

Met Asp Thr Ile Phe Gly Asn Val Thr Glu Tyr Gln Arg Leu Gln Leu  
 1 5 10 15  
 Ser Thr Arg Gly Gln Ser Lys Thr Gly Trp Lys Leu Pro Val Thr Leu  
 20 25 30  
 Ile Cys Cys Pro Arg His Pro Leu Met Arg Leu Lys Leu Gly Pro Ser

<400> 4702  
Arg Gln Gly Phe Thr Leu Thr Arg Met Ile Ser Ile Ser Gly Pro Arg

```

      1             5             10             15
Asp Pro Pro Thr Ser Ala Ser Glu Asn Ala Gly Ile Thr Gly Leu Ser
      20             25             30
His Xaa Pro Pro Gly His Phe Phe Leu Glu Thr Arg Ser Tyr Ser Leu
      35             40             45
Ala Lys Asn Gly Val Gln Trp Cys Asn Val Gly Ser Leu Gln Pro Lys
      50             55             60
Pro Pro Gly Leu Lys
65

```

<210> 4703  
 <211> 513  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4703
nnetgtttcc ttctttgatt gacaacttgt gttaaccctc gcacatctct gggccaattt
60
ttgcttgtaa gtctttccgg agacccttgg aatttaaattc attagcaccg cgaccttccc
120
cgaagagtct tcgaagggtt gccgcttttc ggtggcgag ttctcgcgag aaggaaaatg
180
gcagctcccg agcagccgct tgcgatatca aggggatgca cgagctcctc ctcgctttcc
240
ccgctcggg ctgaccgaac ccttctgggc aggcacctgc cggctgagct tactgctgag
300
gagaaagagg acttgctgaa gtacttcggg gctcagctctg tgcgggtcct gtcagataag
360
gggcgactga aacatacagc ttttgccaca ttccctaattg aaaaagcagc tataaaggca
420
ttgacaagac tccatcaact gaaactttta ggtcatactt tagtcgttga atttgcaaaa
480
gagcaagatc gagttcactc cccatgtccc act
513

```

<210> 4704  
 <211> 112  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4704
Met Ala Ala Pro Glu Gln Pro Leu Ala Ile Ser Arg Gly Cys Thr Ser
      1             5             10             15
Ser Ser Ser Leu Ser Pro Pro Arg Ala Asp Arg Thr Leu Leu Val Arg
      20             25             30
His Leu Pro Ala Glu Leu Thr Ala Glu Glu Lys Glu Asp Leu Leu Lys
      35             40             45
Tyr Phe Gly Ala Gln Ser Val Arg Val Leu Ser Asp Lys Gly Arg Leu
      50             55             60
Lys His Thr Ala Phe Ala Thr Phe Pro Asn Glu Lys Ala Ala Ile Lys
      65             70             75             80
Ala Leu Thr Arg Leu His Gln Leu Lys Leu Leu Gly His Thr Leu Val
      85             90             95
Val Glu Phe Ala Lys Glu Gln Asp Arg Val His Ser Pro Cys Pro Thr

```

100

105

110

&lt;210&gt; 4705

&lt;211&gt; 569

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4705

```

ncagacccat actgtgtggg cacggtgctg gccagcagac cgcacacgct agatggccga
60
aacattgacc cctagccatg cccaccccgg gggatgcagc cgtagagaac acggccgaag
120
gaaggatgga aaggacccag gagcgataac agtaaataca ataagatatt tgtcgggtgga
180
attcctcaca attgtggtga gacagagctc aggaataact tcaagaagtt cggagtggtc
240
acggaggtag tcatgatcta tgacgccgag aagcagaggc cccgaggtaa gggcagatct
300
agtttgacct cggccttctc cctgctcctc cctcagatgg caaactatct caccgccag
360
gcacacacag gtggcggtg tagcaaacag cctcaggaag ggacgatttg gagacaaatg
420
actaaaacgt gggctcctca tgtgcacccc attcagcctg tctgtgcttc ccgaggtcag
480
acgtcacaca ttgttttttg gcttggttctt ttgaagtttt tacgacttgt catgagtctc
540
ggcctggctt ctgtttttca ctgtccgga
569

```

&lt;210&gt; 4706

&lt;211&gt; 154

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4706

```

Arg Thr Arg Pro Lys Glu Gly Trp Lys Gly Pro Arg Ser Asp Asn Ser
1          5          10          15
Lys Ser Asn Lys Ile Phe Val Gly Gly Ile Pro His Asn Cys Gly Glu
20          25          30
Thr Glu Leu Arg Glu Tyr Phe Lys Lys Phe Gly Val Val Thr Glu Val
35          40          45
Val Met Ile Tyr Asp Ala Glu Lys Gln Arg Pro Arg Gly Lys Gly Arg
50          55          60
Ser Ser Leu Thr Ser Ala Phe Ser Leu Leu Leu Pro Gln Met Ala Asn
65          70          75          80
Tyr Leu Thr Arg Gln Ala His Thr Gly Gly Gly Cys Ser Lys Gln Pro
85          90          95
Gln Glu Gly Thr Ile Trp Arg Gln Met Thr Lys Thr Trp Ala Pro His
100         105         110
Val His Pro Ile Gln Pro Val Cys Ala Ser Arg Gly Gln Thr Ser His
115         120         125
Ile Val Phe Trp Leu Val Leu Leu Lys Phe Leu Arg Leu Val Met Ser
130         135         140
Leu Gly Leu Ala Ser Val Phe His Cys Pro

```

145

150

&lt;210&gt; 4707

&lt;211&gt; 748

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4707

ngtcctcttg tccttgagcg tcaaccttct ttcctgaag tggctggggt tcctgtttcc  
 60  
 ttctttgatt gacaacttgt gttaaccctc gcacatctct gggccaattt ttgcttgtaa  
 120  
 gtctttccgg agacccttgg aatttaaatac attagcaccg cgcccttccc cgaagagtct  
 180  
 tcgaagggtt gccgcttttc ggtggcgag ttctcgag aaggtgactt tctttctcgg  
 240  
 tatttcctgg tttccagaat ccttagcgcg aggcggaaaa aatatttctc ccagcttggtg  
 300  
 ttgatgccgc gattttgact gagacttctt cccacgattt ctgtttttgc ttctccaagg  
 360  
 aaaatggcag ctcccgagca gccgcttgcg atatcaaggg gatgcacgag ctctcctcgc  
 420  
 ctttccccgc ctcggggcga ccgaacctt ctggtcaggc acctgccggc tgagcttact  
 480  
 gctgaggaga aagaggactt gctgaagtac ttcggggctc agtctgtgcg ggtcctgtca  
 540  
 gataaggggc gactgaaaca tacagctttt gccacattcc ctaatgaaaa agcagctata  
 600  
 aaggcattga caagactcca tcaactgaaa cttttaggtc atactttagt cgttgaattt  
 660  
 gcaaaagagc aagatcgagt tcactcccca tgtccactt caggctctga aaaaaaaaaa  
 720  
 atgtctgatg accctgtcga agatgata  
 748

&lt;210&gt; 4708

&lt;211&gt; 128

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4708

Met	Ala	Ala	Pro	Glu	Gln	Pro	Leu	Ala	Ile	Ser	Arg	Gly	Cys	Thr	Ser
1				5				10					15		
Ser	Ser	Ser	Leu	Ser	Pro	Pro	Arg	Gly	Asp	Arg	Thr	Leu	Leu	Val	Arg
			20					25				30			
His	Leu	Pro	Ala	Glu	Leu	Thr	Ala	Glu	Glu	Lys	Glu	Asp	Leu	Leu	Lys
		35					40					45			
Tyr	Phe	Gly	Ala	Gln	Ser	Val	Arg	Val	Leu	Ser	Asp	Lys	Gly	Arg	Leu
	50					55					60				
Lys	His	Thr	Ala	Phe	Ala	Thr	Phe	Pro	Asn	Glu	Lys	Ala	Ala	Ile	Lys
	65				70					75				80	
Ala	Leu	Thr	Arg	Leu	His	Gln	Leu	Lys	Leu	Leu	Gly	His	Thr	Leu	Val
			85					90						95	
Val	Glu	Phe	Ala	Lys	Glu	Gln	Asp	Arg	Val	His	Ser	Pro	Cys	Pro	Thr

	100		105		110
Ser	Gly	Ser	Glu	Lys	Lys
		Lys	Lys	Met	Ser
			Asp	Asp	Pro
				Val	Glu
					Asp
					Asp

<210> 4709  
 <211> 1351  
 <212> DNA  
 <213> Homo sapiens

<400> 4709  
 cgcagatccg ggccgcggct gtggggaggg cgacggagcg ggtgaccttc cggaggcggg  
 60  
 agcgagcgag gaggcccggg agcgccgagc gtcgcccgcg ccgccgccat gaacaactcg  
 120  
 ggcgccgacg agatcgggaa gctcttcgtg ggcggtcttg actggagcac gaccaagag  
 180  
 actctgcgca gctacttttc ccaatatgga gaagtcgtag attgtgttat catgaaagat  
 240  
 aaaaccacca accagtctcg aggctttggg tttgtcaaat ttaaagacct aaactgtgtg  
 300  
 gggacggtgc tggccagcag accgcacacg ctagatggcc gaaacatcga cccaagcca  
 360  
 tgcacacccc gggggatgca gccggagaga acacggccga aggaaggatg gcagaaagga  
 420  
 cccaggagcg ataacagtaa atcaaataag atatttgcg gtggaattcc tcacaattgt  
 480  
 ggtgagacag agctcagga atacttcaag aagttcggag tggtcacgga ggtagtcatg  
 540  
 atctatgacg ccgagaagca gaggccccga ggttttggat ttattacttt cgaggacgaa  
 600  
 caatcagtgg accaggctgt caacatgcat tttcacgaca tcatgggcaa aaaagtggaa  
 660  
 gttaaacgag ctgagcctcg ggacagcaag agccaagcgc cgggacagcc aggtgccagc  
 720  
 cagtggggga gccgggttgt gcccaacgct gccaatggct gggcaggcca gccccgcgcc  
 780  
 acgtggcagc aaggatatgg cccgcaagga atgtgggtgc cggcaggaca ggcgatttgt  
 840  
 ggctatggac cgccccctgc aggaagagga gccccccgc cccccacc gtacacctcc  
 900  
 tacatcgtgt ccacctctcc tggaggcttt cccctcccc agggcttccc tcagggttac  
 960  
 ggtgccccgc cacagttcag ttttggttac gggcctccac ctccaccgcc aggcagccgc  
 1020  
 tgaccgcac tcctaagggc ccacagcgga caccagagg gcttttgtct gcagagcgtc  
 1080  
 ttccaccagc agagcctttg gaagctcccc caggagccc caccaggac cctttggggg  
 1140  
 atgcctcagt cagggccagg ctgacctga cccctgctta ccctagtccc ctcaacctcc  
 1200  
 tgacactgga ggaatacttt tctcctaagt ctacctgga cacttttttag ggcacctgga  
 1260  
 gagaactttc ctctccactg tggccccctgc gtggtgaaga tcaaaagaag ttgtttggga  
 1320



aaaaaaattt attaaaaaat tctattattt t  
1351

<210> 4710  
<211> 304  
<212> PRT  
<213> Homo sapiens

<400> 4710  
Met Asn Asn Ser Gly Ala Asp Glu Ile Gly Lys Leu Phe Val Gly Gly  
1 5 10 15  
Leu Asp Trp Ser Thr Thr Gln Glu Thr Leu Arg Ser Tyr Phe Ser Gln  
20 25 30  
Tyr Gly Glu Val Val Asp Cys Val Ile Met Lys Asp Lys Thr Thr Asn  
35 40 45  
Gln Ser Arg Gly Phe Gly Phe Val Lys Phe Lys Asp Pro Asn Cys Val  
50 55 60  
Gly Thr Val Leu Ala Ser Arg Pro His Thr Leu Asp Gly Arg Asn Ile  
65 70 75 80  
Asp Pro Lys Pro Cys Thr Pro Arg Gly Met Gln Pro Glu Arg Thr Arg  
85 90 95  
Pro Lys Glu Gly Trp Gln Lys Gly Pro Arg Ser Asp Asn Ser Lys Ser  
100 105 110  
Asn Lys Ile Phe Val Gly Gly Ile Pro His Asn Cys Gly Glu Thr Glu  
115 120 125  
Leu Arg Glu Tyr Phe Lys Lys Phe Gly Val Val Thr Glu Val Val Met  
130 135 140  
Ile Tyr Asp Ala Glu Lys Gln Arg Pro Arg Gly Phe Gly Phe Ile Thr  
145 150 155 160  
Phe Glu Asp Glu Gln Ser Val Asp Gln Ala Val Asn Met His Phe His  
165 170 175  
Asp Ile Met Gly Lys Lys Val Glu Val Lys Arg Ala Glu Pro Arg Asp  
180 185 190  
Ser Lys Ser Gln Ala Pro Gly Gln Pro Gly Ala Ser Gln Trp Gly Ser  
195 200 205  
Arg Val Val Pro Asn Ala Ala Asn Gly Trp Ala Gly Gln Pro Pro Pro  
210 215 220  
Thr Trp Gln Gln Gly Tyr Gly Pro Gln Gly Met Trp Val Pro Ala Gly  
225 230 235 240  
Gln Ala Ile Gly Gly Tyr Gly Pro Pro Pro Ala Gly Arg Gly Ala Pro  
245 250 255  
Pro Pro Pro Pro Pro Phe Thr Ser Tyr Ile Val Ser Thr Pro Pro Gly  
260 265 270  
Gly Phe Pro Pro Pro Gln Gly Phe Pro Gln Gly Tyr Gly Ala Pro Pro  
275 280 285  
Gln Phe Ser Phe Gly Tyr Gly Pro Pro Pro Pro Pro Pro Gly Ser Arg  
290 295 300

<210> 4711  
<211> 2061  
<212> DNA  
<213> Homo sapiens

<400> 4711

ncgcacggcc gcgcagatct gtcttgctgg aagctttttc ctagaggttg agcggtttgc  
60  
acaatgtcgg aaatggctga gttgtccgag ctgtatgaag agagcagtga cctgcagatg  
120  
gatgtgatgc ctggcgaggg tgaccttccg cagatggagg taggcagcgg gagccgggag  
180  
ctatccctgc gtccctcccg cagcggggcc caacagctcg aggaggaagg cccaatggag  
240  
gaggaggagg cccagccaat ggcggcgcca gaggggaaac ggagccttgc taacggggcc  
300  
aacgctgggg agcagccagg ccagggtggcg ggcgcagact tcgagagcga ggacgagggc  
360  
gaggaatttg atgactggga ggacgactac gactatcccg aagaggagca gctcagtggg  
420  
gccggctaca gagtatcagc cgctcttgaa gaagccgaca agatgtttct gagaacaaga  
480  
gaaccagccc tggatggcgg gtttcagatg cattatgaga agaccccgtt tgatcagtta  
540  
gcttttatcg aagagctttt ttactgatg gttgtcaatc gtctgaccga agaactcggc  
600  
tgtgatgaga ttattgatag agagtagtta gatgctgtta aaagaggagg aaactacttg  
660  
aggagggacc caactttccg ctatcttttg ggttcattcc aaatagtttt gtgccattga  
720  
aaaacttgac cttcaaaaaa atttgttttt cagaatagaa cacaatagga cagtgactgc  
780  
acagttgtga aaaaggaaga gaatcattaa agaaaaagaa aaaagatttt aagaccgttg  
840  
aaatcaatta tcaagaacgt cctaaaacac ctatggcttt gactttgtta ttgatccaga  
900  
ttattttcct tgcattgggg aaaatatctt tcatatttgt ttgctgtaaa gatgggtttg  
960  
caagaataag tcatgaccaa gacaaactgc caatacaaaa gccactgat actaattata  
1020  
taatgagaaa aaaatgtatc caactaggac acatatcttt tgagttattt ggactgaaag  
1080  
cttaagaaaa cttggaaaat tctattttgt gatctagtca agccacagtt atcaaaggct  
1140  
acattttcag tgtaagataa atggatgagt aaactcaa atgtatcacg tgtgctttgt  
1200  
atcttaagat gtgtttccaa gagcatctga aattttgttt gtacatgtat cttgatcatt  
1260  
tataaagcca ctgtgatcta taaatcaaga aaatccattg tcataaccat ttttaaaagt  
1320  
caaaaattaa gacatcctta attaaaaagt ttcaaata gacactaaat gtgtgtgaat  
1380  
gtacaaagaa aacaaacat tgcttatgct gttatatact agagaaattt tgttttgctt  
1440  
gctgttttaa cttgacagat gaaggacttt agttgaactt catattgtaa gaactgttaa  
1500  
taaaagttgt caagtaaaaa gcgctatatc taaaaagact ttatgaacag ttattctatc  
1560  
aacttttaaa ggttttaaac ctgcccagaa attaccttg tatctgaagt ttccctctgt  
1620

ctcctcctct aattaagctt gttatttgct atgcaccagc attggagata ataaaatttc  
 1680  
 ttgttctgtg tattttgttt ggctaatagt attgcataca tactttctct gtatactact  
 1740  
 ttctattgta tgtgttaacc agtattaagg gaaaatgac cagcttcagc tatctaattc  
 1800  
 acaaattaat ttctggaaat taaactttgt aaattaagtt tttgcctata agaatttgct  
 1860  
 ggtctgggaa aacctgccct atcaatgagt atgttgccgt gggtacctta ctaagatgct  
 1920  
 gaagttctag gagagtaatg attacatcag aaggctaggt tcagcaaaat aagtgtatca  
 1980  
 gcaggtttta tcatgatcag taaaaatggt ccaaagctt ctgctccatt atagcagtaa  
 2040  
 agaacgaata tccaatgcaa a  
 2061

<210> 4712  
 <211> 187  
 <212> PRT  
 <213> Homo sapiens

<400> 4712  
 Met Ser Glu Met Ala Glu Leu Ser Glu Leu Tyr Glu Glu Ser Ser Asp  
 1 5 10 15  
 Leu Gln Met Asp Val Met Pro Gly Glu Gly Asp Leu Pro Gln Met Glu  
 20 25 30  
 Val Gly Ser Gly Ser Arg Glu Leu Ser Leu Arg Pro Ser Arg Ser Gly  
 35 40 45  
 Ala Gln Gln Leu Glu Glu Gly Pro Met Glu Glu Glu Glu Ala Gln  
 50 55 60  
 Pro Met Ala Ala Pro Glu Gly Lys Arg Ser Leu Ala Asn Gly Pro Asn  
 65 70 75 80  
 Ala Gly Glu Gln Pro Gly Gln Val Ala Gly Ala Asp Phe Glu Ser Glu  
 85 90 95  
 Asp Glu Gly Glu Glu Phe Asp Asp Trp Glu Asp Asp Tyr Asp Tyr Pro  
 100 105 110  
 Glu Glu Glu Gln Leu Ser Gly Ala Gly Tyr Arg Val Ser Ala Ala Leu  
 115 120 125  
 Glu Glu Ala Asp Lys Met Phe Leu Arg Thr Arg Glu Pro Ala Leu Asp  
 130 135 140  
 Gly Gly Phe Gln Met His Tyr Glu Lys Thr Pro Phe Asp Gln Leu Ala  
 145 150 155 160  
 Phe Ile Glu Glu Leu Phe Ser Leu Met Val Val Asn Arg Leu Thr Glu  
 165 170 175  
 Glu Leu Gly Cys Asp Glu Ile Ile Asp Arg Glu  
 180 185

<210> 4713  
 <211> 1324  
 <212> DNA  
 <213> Homo sapiens

<400> 4713

aattcggcac agcacggaac cccctcctct cacagaaccc cctcctctca cacagaaccc  
60  
cctcctctca cacagaaccc cctcctctca cggaaccccc tctctcagc gaacccccctc  
120  
ctctcagga acgcccctct ctcacacaga accccctcct ctcaccgaat cccatctcag  
180  
tcttgagttt tccctcgact ctgttgcttc cgctcacatc ttagtgagtc cccagggcct  
240  
ctgcggggca tggaatcaca cgtgcagtgt tccggcatgt tcagcctggg gtgtgacagt  
300  
gggggtccct gccaggccag cagtgtgctc tgactcgggg cagggaccag gttctgtgta  
360  
gctttgtgct caagtgtga gcagagtaga ctctcagcag atgtttgaat gaatgggtga  
420  
accaatggct gcacaaatga acgagcctga ctctccctca tgatttggtc catagtgtgt  
480  
ttaaataccc tcttagtggg cttttagctc cttgaagatg gaaacagggt tgcatagtaa  
540  
gtttgtttta ttgaatggaa tggacttaaa gtcttcggac ttgggagaat taggacagat  
600  
ctgtttcccc gttggtaaag taaagggttg gcctgatgat ctcagaaact caggaagagt  
660  
gatggtcggc cccagggtcg agagtgaagt actgccaggc ccagggtgtt cctgtgttc  
720  
tggtcccg accacagtgt ttcttcctga agccgggtgg tgcagccact ttgccttgct  
780  
cctctacgcc tttcctgaag gatgaggtgg ggccagctc cctctgggag ctcggtcaag  
840  
ttcacccgcc tgctgcctg tccagccaag tacctggccc agatcattgt gatgggcgtg  
900  
cagggtgggtg gcagggcctt tgcacgggcc ttgcggcagg agtttgcagc cagccgggcc  
960  
gcagctgatg cccgaggacg cgctggacac cggctctgag ccgcttccaa cctctccggc  
1020  
ctcagcctcc aggaggcaca gcagattctc aacgtgtcca agctgagccc tgaggaggtc  
1080  
cagaagaact atgaacactt atttaagggtg aatgataaat ccgtgggtgg ctccttctac  
1140  
ctgcagtcaa aggtgggtccg cgcaaaggag cgctggatg aggaactcaa aatccaggcc  
1200  
caggaggaca gagaaaaagg gcagatgccc catacgtgac tgctcggtc ccccgccca  
1260  
ccccgccgcc tctaatttat agcttggtta taaatttctt ttctgcaaaa aaaaaaaaaa  
1320  
aaaa  
1324

&lt;210&gt; 4714

&lt;211&gt; 145

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4714

Met Arg Trp Gly Gln Ser Ala Ser Gly Ser Ser Val Lys Phe Thr Arg

```

      1           5           10           15
Leu Pro Ala Cys Pro Ala Lys Tyr Leu Ala Gln Ile Ile Val Met Gly
      20           25           30
Val Gln Val Val Gly Arg Ala Phe Ala Arg Ala Leu Arg Gln Glu Phe
      35           40           45
Ala Ala Ser Arg Ala Ala Ala Asp Ala Arg Gly Arg Ala Gly His Arg
      50           55           60
Ser Ala Ala Ala Ser Asn Leu Ser Gly Leu Ser Leu Gln Glu Ala Gln
      65           70           75           80
Gln Ile Leu Asn Val Ser Lys Leu Ser Pro Glu Glu Val Gln Lys Asn
      85           90           95
Tyr Glu His Leu Phe Lys Val Asn Asp Lys Ser Val Gly Gly Ser Phe
      100          105          110
Tyr Leu Gln Ser Lys Val Val Arg Ala Lys Glu Arg Leu Asp Glu Glu
      115          120          125
Leu Lys Ile Gln Ala Gln Glu Asp Arg Glu Lys Gly Gln Met Pro His
      130          135          140
Thr
145

```

&lt;210&gt; 4715

&lt;211&gt; 2051

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4715

```

nnggggtttcg acagcctaga aggaacaaaa cggcatttcc gggaagatgc gcgacaagtc
60
aggtccggca catgttccgc gggcccagca atgacggatg atatcacctc ttcttctctg
120
gtgagagtct gaggatagag acttttttct caccatgaat gtcaccccag aggtcaagag
180
tcgtgggatg aagtttgctg aggagcagct gctaaagcat ggatggactc aaggcaaagg
240
cctcggcgga aggagaatgg tatcactcag gctctcaggg tgacactgaa gcaagacact
300
catggggtag gacatgaccc tgccaaggag ttcacaaacc actggtggaa tgagctcttc
360
aacaagactg cggccaactt ggtagtgga actgggcagg atggagtaca gataaggagc
420
ctttctaagg agaccacccg ttataatcat cccaagccca acttgctgta tcagaagttt
480
gtgaagatgg ctacattgac ttcaggtgga gagaagccaa acaaagactt ggagagctgc
540
agtgatgacg acaaccaggg gtccaagtcc ccaaagattc tgactgatga gatgctgctc
600
caagcctgtg aggggccaac agcacacaag gctgcccgtc ttgggatcac aatgaaggcc
660
aagcttgctc gcctagaggc ccaggagcag gccttctctg ctcgtctcaa aggccaggag
720
cctggggccc ctcaactgca gtcagagagc aagccccca aaaaaaagaa aaagaaaagg
780
aggcagaaag aggaggaaga agctacagca tctgaaagga atgatgcaga tgagaagcac
840

```

ccagaacatg ctgagcagaa catcagaaaa agcaagaaga agaaaaggcg acatcaagaa  
 900  
 ggaaaggtct cagatgaaag agagggtaca actaaagaat gagaaggagg acgctgcagg  
 960  
 aacaagtggg cttggggaat tgaatagcag agagcaaacc aatcagtccc tcaggaaagg  
 1020  
 gaagaaaaag aagaggtgng caccatgaag aggagaagat ggggggtcttg gaggaaggag  
 1080  
 gaaaaggcaa ggaggctgca gagtgtcagg acagaggagg tagagagcag ggcataatgct  
 1140  
 gacccatgca gccgaagaaa gaagaggcag caacaggagg aggaggactt gaacctagaa  
 1200  
 gatagaggtg aggaaactgt tttaggtggt ggaaccaggg aagcagagag cagagcatgc  
 1260  
 agtgatggaa gaagcaggaa aagcaagaag aaaagacagc agcatcaaga ggaggaggac  
 1320  
 atcttgatg taaggatga gaaggatggc ggggctaggg aagcagagag cagagcacac  
 1380  
 actggctcaa gcagcnagag gtaagaggaa gaggcagcag catcccaaga aggaaagagc  
 1440  
 tggagtcagc actgtccaga aagccaaaaa gaaacagaag aagagagact aaaggtctgg  
 1500  
 taaaggtagg gctcaattga ttgattttca ggagttgaag cctcaaagac cagggttgat  
 1560  
 gcaggtctgc aggtcttctg cccccctc aatgaggagt ccctcccaga aaggaaactg  
 1620  
 atctctggga cgtcagctgc tgagaggagc aagcggtagt accaccctt agttgaggga  
 1680  
 gtcagcacag tcctttctgc agcttctaac ccaggaccat gaactcaggt gcctagagaa  
 1740  
 gccaggcagc taaaggacaa ggaatgctgg gggctgtggg aacaggaatg cagataccct  
 1800  
 ttgaaggagc attcctgcta aaagaagctg aaaatgtaga cctatgtgaa gtgctctgat  
 1860  
 ttctaaatat tgtgaaggtt aagaaaaaca taaatttagg tctatgggct agatttagcc  
 1920  
 cacagttgcc agtttctagc gctaccaa atgaataa acatgcttgc gtccttagcc  
 1980  
 tagagataaa tcctgactgg catctctgtt cccagcctgg gaaggtcctg aatacaaatt  
 2040  
 agaagatatt c  
 2051

&lt;210&gt; 4716

&lt;211&gt; 239

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4716

Met	Asp	Ser	Arg	Gln	Arg	Pro	Arg	Arg	Lys	Glu	Asn	Gly	Ile	Thr	Gln
1				5					10					15	
Ala	Leu	Arg	Val	Thr	Leu	Lys	Gln	Asp	Thr	His	Gly	Val	Gly	His	Asp
			20					25					30		
Pro	Ala	Lys	Glu	Phe	Thr	Asn	His	Trp	Trp	Asn	Glu	Leu	Phe	Asn	Lys

```
<210> 4717
<211> 2753
<212> DNA
<213> Homo sapiens
```

```

<400> 4717
nggtaccccg tgtgatgggc cgcccactgg tctgcagagc ttcccaggct gcctgcaggc
60
cctgcacgtc cccggagttg gggctgtagc cctgcccata cactgcaatc cagcccacag
120
gctctgagtt ggggtgaaccg ggggtcccat agcgggtaac ttgggatggg ggggtacttgg
180
ccagccaggc atccagctta gtggcaggcg ttgtgcgggc atcaaacact agccaggggt
240
ccatgtcagc tgccatggcc tctgcagcca ggtgctcggc ggtgaagcca tcctcacggc
300
cacctggaga gccctcctct tccagctcct cacctggttc catcctgctc cggccttcgc
360
tgcgttcgac gccggcccag ccccgggccc ggctccgctc ctgccgtggc tccgcgcagc
420
atcctgggccc tccccccgct ttctgaggac agcatcaaag tgattcgcaa catgagagca
480
gcctctccac cagcatctgc ttcagacttg attgagcagc agcagaaacg gggccgccga
540
gagcacaagg ctctgataaa gcaggacaac ctagatgcct tcaacgagcg ggatccctac
600
aaggctgatg actctcgaga agaggaagag gagaatgatg atgacaacag tctggagggg
660

```

gagacgtttc ccctggaacg ggatgaagtg atgcctcccc cgctacagca cccacagact  
720  
gacaggctga cttgccccaa agggctcccg tgggctccca aggtcagaga gaaagacatt  
780  
gagatgttcc ttgagtcag ccgcagcaaa tttatagggt acactctagg cagtgcacag  
840  
aacacagtgg tggggctgcc caggccaatc cacgaaagca tcaagactct gaaacagcac  
900  
aagtacacgt cgattgcaga ggtccaggca cagatgaagg aggaatacct ccgctcccct  
960  
ctctcagggg gagaagaaga agttgagcaa gtccctgcag aaaccctcta ccaaggcttg  
1020  
ctccccagcc tgccctagta tatgattgcc ctccctgaaga tcctgttggc tgcagcacc  
1080  
acctcaaaag ccaaaacaga ctcaatcaac atcctagcgg acgtcttgcc tgaggagatg  
1140  
cccaccacag tgttgacag catgaagctg ggggtggatg taaaccgcca caaagaggtc  
1200  
attgttaaag ccatttctgc tgccctgctg ctgctgctta agcactttta agtgaaccat  
1260  
ttctaccagt ttgaatacat ggcccagcac ctggtgtttg ccaactgcat tcctttgatc  
1320  
ctaaagttct tcaatcaaaa catcatgtcc tacatcactg ccaagaacag catttctgtc  
1380  
ctggattacc ctactgctg ggtgcatgag ctgccagagc tgacggcgga gagtttggaa  
1440  
gcaggtgaca gtaaccaatt ttgctggagg aacctctttt cttgtatcaa tctgcttcgg  
1500  
atcttgaaca agctgacaaa gtggaagcat tcaaggacaa tgatgctggt ggtgttcaag  
1560  
tcagccccc tcttgaagcg ggccctaaag gtgaaacaag ccatgatgca gctctatgtg  
1620  
ctgaagctgc tcaaggtaca gaccaaatac ttggggcggc agtggcgaaa gagcaacatg  
1680  
aagaccatgt ctgccatcta ccagaagggt cggcacggc tgaacgacga ctgggcatac  
1740  
ggcaatgatc ttgatgcccg gccttgggac ttccaggcag aggagtgtgc ccttcgtgcc  
1800  
aacattgaac gcttcaacgc ccggcgctat gaccggggcc acagcaaccc tgacttcctg  
1860  
ccagtggaca actgctgca gagtgtcctg ggccaacggg tggacctccc tgaggacttt  
1920  
cagatgaact atgacctctg gttagaaagg gaggtcttct ccaagcccat ttcttgggaa  
1980  
gagctgctgc agtgaggctg ttgggttaggg gactgaaatg gagagaaaag atgatctgaa  
2040  
ggtacctgtg ggactgtcct agttcattgc tgcagtgtc ccatccccc ccagggtggca  
2100  
gcacagcccc actgtgtctt ccgcagtctg tcctgggctt ggggtgagccc agcttgacct  
2160  
ccccttgggt cccagggtcc tgctccgaag cagtcatctc tgccctgagat ccattcttcc  
2220  
tttacttccc ccacctcct ctcttggata tgggttggtt tggtcattt cacaatcagc  
2280



ccaaggctgg gaaagctgga atgggatggg aaccctccg ccgtgcatct gaatttcagg  
 2340  
 ggtcatgctg atgcctctcg agacatacaa atccttgctt tgtcagcttg caaaggagga  
 2400  
 gagtttagga ttagggccag ggccagaaag tcggtatctt ggttggtgctc tgggggtggg  
 2460  
 gtggggtggt tctgatgtta ttccagcctc ctgctacatt atatccagaa gtaattgcgg  
 2520  
 aggctccttc agctgcctca gcactttgat tttggacagg gacaaggtag gaagagaagc  
 2580  
 ttcccttaac cagagggggcc atttttcctt ttggctttcg agggcctgta aatatctata  
 2640  
 tataattctg tgtgtattct gtgtcatgtt ggggttttta atgtgattgt gtattctgtt  
 2700  
 tacattaataa agaagcaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa  
 2753

<210> 4718

<211> 259

<212> PRT

<213> Homo sapiens

<400> 4718

Met	Arg	Ala	Ala	Ser	Pro	Pro	Ala	Ser	Ala	Ser	Asp	Leu	Ile	Glu	Gln
1				5					10					15	
Gln	Gln	Lys	Arg	Gly	Arg	Arg	Glu	His	Lys	Ala	Leu	Ile	Lys	Gln	Asp
			20					25					30		
Asn	Leu	Asp	Ala	Phe	Asn	Glu	Arg	Asp	Pro	Tyr	Lys	Ala	Asp	Asp	Ser
		35					40					45			
Arg	Glu	Glu	Glu	Glu	Glu	Asn	Asp	Asp	Asp	Asn	Ser	Leu	Glu	Gly	Glu
	50					55					60				
Thr	Phe	Pro	Leu	Glu	Arg	Asp	Glu	Val	Met	Pro	Pro	Pro	Leu	Gln	His
65					70					75				80	
Pro	Gln	Thr	Asp	Arg	Leu	Thr	Cys	Pro	Lys	Gly	Leu	Pro	Trp	Ala	Pro
				85					90					95	
Lys	Val	Arg	Glu	Lys	Asp	Ile	Glu	Met	Phe	Leu	Glu	Ser	Ser	Arg	Ser
			100					105					110		
Lys	Phe	Ile	Gly	Tyr	Thr	Leu	Gly	Ser	Asp	Thr	Asn	Thr	Val	Val	Gly
	115						120					125			
Leu	Pro	Arg	Pro	Ile	His	Glu	Ser	Ile	Lys	Thr	Leu	Lys	Gln	His	Lys
	130					135					140				
Tyr	Thr	Ser	Ile	Ala	Glu	Val	Gln	Ala	Gln	Met	Lys	Glu	Glu	Tyr	Leu
145					150					155				160	
Arg	Ser	Pro	Leu	Ser	Gly	Gly	Glu	Glu	Glu	Val	Glu	Gln	Val	Pro	Ala
				165				170					175		
Glu	Thr	Leu	Tyr	Gln	Gly	Leu	Leu	Pro	Ser	Leu	Pro	Gln	Tyr	Met	Ile
		180					185					190			
Ala	Leu	Leu	Lys	Ile	Leu	Leu	Ala	Ala	Pro	Thr	Ser	Lys	Ala	Lys	
	195						200					205			
Thr	Asp	Ser	Ile	Asn	Ile	Leu	Ala	Asp	Val	Leu	Pro	Glu	Glu	Met	Pro
	210					215					220				
Thr	Thr	Val	Leu	Gln	Ser	Met	Lys	Leu	Gly	Val	Asp	Val	Asn	Arg	His
225					230					235				240	
Lys	Glu	Val	Ile	Val	Lys	Ala	Ile	Ser	Ala	Ala	Leu	Leu	Leu	Leu	Leu

Lys His Phe 245 250 255

<210> 4719  
 <211> 589  
 <212> DNA  
 <213> Homo sapiens

<400> 4719  
 cgaaccatgg ccggcatggt ggacttccag gatgaggagc aggtcaagtc ctttttggag  
 60  
 aacatggagg tggagtgcaa ctaccactgc taccacgaga aggacccgga cggttgctat  
 120  
 cggctggtgg actatttggg agggatccgg aagaattttg atgaggctgc caaggtgttg  
 180  
 aagtttaact gtgaagagaa ccagcacagt gatagctgct acaaactggg ggcctactat  
 240  
 gtgactggaa aagggtgtct gaccaggac ctgaaagctg ccgccaggtg ctttttgatg  
 300  
 gcgtgtgaga agcctggaaa gaagtcaata gcagcatgtc acaacgttgg cctcctggca  
 360  
 catgatggac aggttaatga ggatggccag cctgacttgg gaaaggccag ggactactac  
 420  
 acaagggcct gtgatggtgg ctatacttcc agttgcttca acctcagtgc catgttctctg  
 480  
 cagggtgccc caggctttcc caaggacatg gacctggcat gtaaatactc catgaaagcc  
 540  
 tgtgacctgg gtcatatctg ggctgtgcc aatgccagtc gcatgtaca  
 589

<210> 4720  
 <211> 196  
 <212> PRT  
 <213> Homo sapiens

<400> 4720  
 Arg Thr Met Ala Gly Met Val Asp Phe Gln Asp Glu Glu Gln Val Lys  
 1 5 10 15  
 Ser Phe Leu Glu Asn Met Glu Val Glu Cys Asn Tyr His Cys Tyr His  
 20 25 30  
 Glu Lys Asp Pro Asp Gly Cys Tyr Arg Leu Val Asp Tyr Leu Glu Gly  
 35 40 45  
 Ile Arg Lys Asn Phe Asp Glu Ala Ala Lys Val Leu Lys Phe Asn Cys  
 50 55 60  
 Glu Glu Asn Gln His Ser Asp Ser Cys Tyr Lys Leu Gly Ala Tyr Tyr  
 65 70 75 80  
 Val Thr Gly Lys Gly Gly Leu Thr Gln Asp Leu Lys Ala Ala Ala Arg  
 85 90 95  
 Cys Phe Leu Met Ala Cys Glu Lys Pro Gly Lys Lys Ser Ile Ala Ala  
 100 105 110  
 Cys His Asn Val Gly Leu Leu Ala His Asp Gly Gln Val Asn Glu Asp  
 115 120 125  
 Gly Gln Pro Asp Leu Gly Lys Ala Arg Asp Tyr Tyr Thr Arg Ala Cys

130		135		140	
Asp Gly Gly Tyr Thr Ser Ser Cys Phe Asn Leu Ser Ala Met Phe Leu					
145		150		155	160
Gln Gly Ala Pro Gly Phe Pro Lys Asp Met Asp Leu Ala Cys Lys Tyr					
	165		170		175
Ser Met Lys Ala Cys Asp Leu Gly His Ile Trp Ala Cys Ala Asn Ala					
	180		185		190
Ser Arg Met Tyr					
195					

&lt;210&gt; 4721

&lt;211&gt; 1385

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4721

```

nncaacagct ccgacaaggt actacgatga tatatatattt gattctgatt ccgaggatga
60
agacagagtt tagggactgg acttgcagtg taaacagaga cgctgcaa at tgcttgtgga
120
cggtgtaggc cgctgcaggc caccatgaac cggttccgg atgactacga cccctacgcg
180
gttgaagagc ctagcgacga ggagccggct ttgagcagct ctgaggatga agtggatgtg
240
cttttacatg gaactcctga ccaaaaacga aaactcatca gagaatgtct taccggagaa
300
agtgaatcat ctagtgaaga tgaatttgaa aaggagatgg aagctgaatt aaattctacc
360
atgaaaacaa tggaggacaa gttatcctct ctgggaactg gatcttctctc aggaaatgga
420
aaagttgcaa cagctccgac aagggtactac gatgatatat attttgattc tgattccgag
480
gatgaagaca gagcagtaca ggtgaccaag aaaaaaaga agaaacaaca caagattcca
540
acaaatgacg aattactgta tgatcctgaa aaagataaca gagatcaggc ctgggttgat
600
gcacagagaa ggggttacca tggtttggga ccacagagat cacgtcaaca acagcctgtt
660
ccaaatagt atgctgtctt gaattgtcct gcctgcatga ccacactttg ccttgattgc
720
caaaggcatg aatcatacaa aactcaatat agagcaatgt ttgtaatgaa ttgttctatt
780
aacaagagg aggttctaag atataaagcc tcagagaaca ggaagaaaag gcgggtccat
840
aagaagatga ggtctaaccg ggaagatgct gctgagaagg cagagacaga tgtggaagaa
900
atctatcacc cagtcattgt cactgaatgt tccactgaag tggcagtcta cgacaaggat
960
gaagtctttc attttttcaa tgttttagca agccattcct aaacagccca actggcattt
1020
aattacccaa tactgtatat aaggcaaata tggacagtta ctttctcttt gcctgttcat
1080
atccttcagt gacattgagg aagcagtgtt tctcttttta aaggagaata gttgtcaacc
1140

```

ttcattcatc tcttacatct ctcaccctct cctttttttt ttctttgatt ttccccctta  
 1200  
 ttgatgggac tgatattcat tctgtttttg atgaacattt ggaaactgtc gggcttttta  
 1260  
 ttaaagctct gtagaattaa aatgttctgg aattataagc aatctttgtt tctgagtgtt  
 1320  
 atttttattt tggatatagc tttgatgtaa ttaaactgga aactctttcc tcaaaaaaaaa  
 1380  
 agctt  
 1385

<210> 4722

<211> 285

<212> PRT

<213> Homo sapiens

<400> 4722

Met	Asn	Arg	Leu	Pro	Asp	Asp	Tyr	Asp	Pro	Tyr	Ala	Val	Glu	Glu	Pro
1				5					10					15	
Ser	Asp	Glu	Glu	Pro	Ala	Leu	Ser	Ser	Ser	Glu	Asp	Glu	Val	Asp	Val
			20					25					30		
Leu	Leu	His	Gly	Thr	Pro	Asp	Gln	Lys	Arg	Lys	Leu	Ile	Arg	Glu	Cys
		35					40					45			
Leu	Thr	Gly	Glu	Ser	Glu	Ser	Ser	Ser	Glu	Asp	Glu	Phe	Glu	Lys	Glu
	50					55				60					
Met	Glu	Ala	Glu	Leu	Asn	Ser	Thr	Met	Lys	Thr	Met	Glu	Asp	Lys	Leu
65					70				75					80	
Ser	Ser	Leu	Gly	Thr	Gly	Ser	Ser	Ser	Gly	Asn	Gly	Lys	Val	Ala	Thr
			85					90					95		
Ala	Pro	Thr	Arg	Tyr	Tyr	Asp	Asp	Ile	Tyr	Phe	Asp	Ser	Asp	Ser	Glu
		100					105					110			
Asp	Glu	Asp	Arg	Ala	Val	Gln	Val	Thr	Lys	Lys	Lys	Lys	Lys	Lys	Gln
	115					120					125				
His	Lys	Ile	Pro	Thr	Asn	Asp	Glu	Leu	Leu	Tyr	Asp	Pro	Glu	Lys	Asp
	130				135					140					
Asn	Arg	Asp	Gln	Ala	Trp	Val	Asp	Ala	Gln	Arg	Arg	Gly	Tyr	His	Gly
145				150					155					160	
Leu	Gly	Pro	Gln	Arg	Ser	Arg	Gln	Gln	Gln	Pro	Val	Pro	Asn	Ser	Asp
			165				170						175		
Ala	Val	Leu	Asn	Cys	Pro	Ala	Cys	Met	Thr	Thr	Leu	Cys	Leu	Asp	Cys
		180					185					190			
Gln	Arg	His	Glu	Ser	Tyr	Lys	Thr	Gln	Tyr	Arg	Ala	Met	Phe	Val	Met
	195					200					205				
Asn	Cys	Ser	Ile	Asn	Lys	Glu	Glu	Val	Leu	Arg	Tyr	Lys	Ala	Ser	Glu
	210				215					220					
Asn	Arg	Lys	Lys	Arg	Arg	Val	His	Lys	Lys	Met	Arg	Ser	Asn	Arg	Glu
225				230					235					240	
Asp	Ala	Ala	Glu	Lys	Ala	Glu	Thr	Asp	Val	Glu	Glu	Ile	Tyr	His	Pro
			245					250				255			
Val	Met	Cys	Thr	Glu	Cys	Ser	Thr	Glu	Val	Ala	Val	Tyr	Asp	Lys	Asp
		260					265					270			
Glu	Val	Phe	His	Phe	Phe	Asn	Val	Leu	Ala	Ser	His	Ser			
		275					280					285			

<210> 4723  
<211> 1213  
<212> DNA  
<213> Homo sapiens

<400> 4723  
tttttttttt tttttttttt tttttttttt ttttccggtg tccactggaa gttttatttc  
60  
tttaggggttc tatcccaacc agtcgcttaa aaaccaagta acacagacct gaggggtggg  
120  
ggctgggggac tgcacctccc tcctactcat ggtggacagc agtggggact agggaggggg  
180  
aggagagggtg gctgacgcca ggcagcagca gcagtgatgg ggccacgacg ccacagagca  
240  
agctccatcc tccccagac cctggtggga gtccctgtgg gttgggggtgg ggagtgggga  
300  
gaaccacccc caggccctcc ctctcccttc ccagacagt ctcttttcgg gctcaaccca  
360  
tttcttccgg caggagactg aggcacacag agaggaggaa gtgggagagg aggacgaggg  
420  
aggggcaggn gtggcagcac aaatgaaggc agaggtgaga ggcgtgggca aggccactcc  
480  
acccccacac ccaccccaga gaggggagag gaagccacac catcacgcag catgtcgggg  
540  
ggacaaggcg ggggtttaagg ctgagggggc ccggggcagg cgggcctcgg gcctcagtca  
600  
aagcgtgcc cagtcgctgt gctctgagtc gtattccagc tcggcgccca cacacttgac  
660  
accatccagc agcatgggag tgccgtgggt ccgggtccatg acgggggcct gcaccgtcac  
720  
gcgcacacag gtgccagtgc caccttcgca ggctagcagt atctcctctt tgaggacgcc  
780  
ctctttgtgc gccgagtact cacacttgac actataacct tcagggacgg gcaccacgct  
840  
gaggagcttg aggtgcaggc tggggacagg tgccctcgcg acatccttgc tcagcctgtg  
900  
cactggggggc agagtgaagg taatctcata cctgtgcagg atcttcagga agccaacctt  
960  
gaccagaaag ctgctgtcac tctcctgggt gaccatgacc accgagtcac gcagcttctc  
1020  
atcaaagtgg acgtggctgt gggatccttc tgcatcgtgg cctgccgcaa agcggatact  
1080  
ccggactctg ggcttggtgc ccttggtggc tgacgccatg gacgccctcc ctgccacgca  
1140  
gtcctgcca gacaccgcca ctcacgctca gcagcctccc atgctccagg gacaccagcg  
1200  
ggagccttgc tgt  
1213

<210> 4724  
<211> 54  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 4724

```

Met Gly Pro Arg Arg His Arg Ala Ser Ser Ile Leu Pro Gln Thr Leu
 1           5           10           15
Val Gly Val Pro Val Gly Trp Gly Gly Glu Trp Gly Glu Pro Thr Pro
          20           25           30
Gly Pro Pro Ser Pro Phe Pro Arg Gln Ser Pro Phe Gly Leu Asn Pro
          35           40           45
Phe Leu Pro Ala Gly Asp
          50

```

&lt;210&gt; 4725

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4725

```

nnctttcttg aaggtgaatt aggtagaagc cgtaggaccc ctgcaggggg gagagggggcc
60
atgcttgcaa tagacacggc ttcagacatc ctggcacatg tccacgtgta ctctcgcttg
120
tgcgcatgtg cacgtgtgta tatgcatatg tgcacagggtg cctgtgcctg tgtgaacaca
180
tgttctcacg tgtgtacctg cntctcttgc ccatgcntgt acgtgcacac gtgcctctgt
240
atgcatgcat gtatagctgt gtgccatac cctcacgtga gaatacatat gcgcttgtgc
300
cttcacctct gcatgcatgc tagtgtgtc ctgcgtgcat ggggtgtgcat ctgtgcctgc
360
acgcgt
366

```

&lt;210&gt; 4726

&lt;211&gt; 122

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4726

```

Xaa Phe Leu Glu Gly Glu Leu Gly Arg Ser Arg Arg Thr Pro Ala Gly
 1           5           10           15
Gly Arg Gly Ala Met Leu Ala Ile Asp Thr Ala Ser Asp Ile Leu Ala
          20           25           30
His Val His Val Tyr Ser Arg Leu Cys Ala Cys Ala Arg Val Tyr Met
          35           40           45
His Met Cys Thr Gly Ala Cys Ala Cys Val Asn Thr Cys Ser His Val
          50           55           60
Cys Thr Cys Xaa Ser Cys Pro Cys Xaa Tyr Val His Thr Cys Leu Cys
          65           70           75           80
Met His Ala Cys Ile Ala Val Cys Pro Tyr Pro His Val Arg Ile His
          85           90           95
Met Arg Leu Cys Leu His Leu Cys Met His Ala Ser Val Leu Leu Arg
          100          105          110
Ala Trp Val Cys Ile Cys Ala Cys Thr Arg
          115          120

```

<210> 4727  
<211> 2031  
<212> DNA  
<213> Homo sapiens

<400> 4727  
tttttttttt gagacggagt ccacacccgt cacctgggct ggagtgcaat ggtgtgatct  
60  
cagctcactg caacctctgt ctcttgggtt cacatgattc tcttgctca gcctcccaag  
120  
tagctgggat tacagggacc caccaccaca cccggctaata tttttttgta tttttactag  
180  
agacgggggtt tcaactatgtt ggccagactg gtctcgaact cctaacctca tgatccgctc  
240  
actttggcct cccaaagtgc tgggattaca gccgtgagcc accgcacctg gtctgcgttc  
300  
acttacttct tcaattcttc gatggcctcc ggcaaccggc ggcagggtgt aagtagcagg  
360  
gagactgca gttcggcggt ggtatctgtc aggacatctg ggggtgtagcc aactcggatc  
420  
ccacgcttct tgatttcac caaagccaag tggtcgatgc ccacagacat ggtgctgatg  
480  
actttgagat tggccccggc ccagctacat tcccgggcca gcttctgtac tgccagggtc  
540  
gggtcggcgg ctgcactgcg gatgagaccg gtgcgactca tgaagggtgt cgtcaccgcg  
600  
aggatacccg ccgagggtag ggtcgcgctc gcccgggcgg cagactgtga ggtggagcag  
660  
tgggactcgg atgagcccat ccctgccaaag gagctagagc gaggtgtggc gggggccac  
720  
ggcctgctct gcctcctctc cgaccacgtg gacaagagga tcttggatgc tgcaggggccc  
780  
aatctcaaag tcatcagcac catgtctgtg ggcacgacc acttggcttt ggatgaaatc  
840  
aagaagcgtg ggatccgagt tggtacacc ccagatgtcc tgacagatac caccgccgaa  
900  
ctcgcagtct ccctgctact taccacctgc cgcgggttgc cggaggccat cgaggaagtg  
960  
aagaatggtg gctggacctc gtggaagccc ctctggctgt gtggctatgg actcacgcag  
1020  
agcactgtcg gcatcatcgg gctggggcgc ataggccagg ccattgctcg gcgtctgaaa  
1080  
ccattcgggtg tccagagatt tctgtacaca gggcgccagc ccaggcctga ggaagcagcg  
1140  
gaattccagg cagagtttgt gtctacctct gagctggctg cccaatctga tttcatcgtc  
1200  
gtggcctgct ccttaacacc tgcaaccgag ggactctgca acaaggactt cttccagaag  
1260  
atgaaggaaa cagctgtgtt catcaacatc agcaggggcg acgtcgtaaa ccaggacgac  
1320  
ctgtaccagg ccttggccag tggtaagatt gcagctgctg gactggatgt gacgagccca  
1380  
gaaccactgc ctacaaacca ccctctctctg accctgaaga actgtgtgat tctgccccac  
1440

attggcagtg ccacccacag aacccgcaac accatgtcct tgttggcagc taacaacttg  
 1500  
 ctggctggcc tgagagggga gccgatgcct agtgaactca agctgtagcc aaacagtaga  
 1560  
 gatggagggc cgggaagcaa accgtgccct ggtattgtca gacacacca ggcttgattt  
 1620  
 ggatccacag gcagagccaa ggaaggtgt gattctctga ggaaagagtg attctgatat  
 1680  
 atgtacttgg cgcaaagtgt tccaacacca atgtgacaga ctgaccccaa caccctccag  
 1740  
 tcacaacaac tcacgtggac tgtcctccct cagggcttcc aggatagcct tcttttcttc  
 1800  
 gggcaagccc tagcccaaga ccttgccctc ttggatcttt cccccagccg ccttcttcaa  
 1860  
 tatctagatg acctccttct ctgtagcccc tccctaaaaa actcccaaac tcacactgcc  
 1920  
 acccttctga atttccttac taataaaggc tatagggtct cccctttaaa gaacagcttt  
 1980  
 ccaccctac cgggacctac ttaggagttc aaccttcccc cgggtctcga g  
 2031

&lt;210&gt; 4728

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4728

Met	Arg	Pro	Val	Arg	Leu	Met	Lys	Val	Phe	Val	Thr	Arg	Arg	Ile	Pro
1				5					10					15	
Ala	Glu	Gly	Arg	Val	Ala	Leu	Ala	Arg	Ala	Ala	Asp	Cys	Glu	Val	Glu
			20					25					30		
Gln	Trp	Asp	Ser	Asp	Glu	Pro	Ile	Pro	Ala	Lys	Glu	Leu	Glu	Arg	Gly
		35				40						45			
Val	Ala	Gly	Ala	His	Gly	Leu	Cys	Leu	Leu	Ser	Asp	His	Val	Asp	
	50					55				60					
Lys	Arg	Ile	Leu	Asp	Ala	Ala	Gly	Ala	Asn	Leu	Lys	Val	Ile	Ser	Thr
65				70					75					80	
Met	Ser	Val	Gly	Ile	Asp	His	Leu	Ala	Leu	Asp	Glu	Ile	Lys	Lys	Arg
			85					90						95	
Gly	Ile	Arg	Val	Gly	Tyr	Thr	Pro	Asp	Val	Leu	Thr	Asp	Thr	Thr	Ala
			100					105					110		
Glu	Leu	Ala	Val	Ser	Leu	Leu	Leu	Thr	Thr	Cys	Arg	Arg	Leu	Pro	Glu
		115					120					125			
Ala	Ile	Glu	Glu	Val	Lys	Asn	Gly	Gly	Trp	Thr	Ser	Trp	Lys	Pro	Leu
	130					135						140			
Trp	Leu	Cys	Gly	Tyr	Gly	Leu	Thr	Gln	Ser	Thr	Val	Gly	Ile	Ile	Gly
145				150					155					160	
Leu	Gly	Arg	Ile	Gly	Gln	Ala	Ile	Ala	Arg	Arg	Leu	Lys	Pro	Phe	Gly
			165					170						175	
Val	Gln	Arg	Phe	Leu	Tyr	Thr	Gly	Arg	Gln	Pro	Arg	Pro	Glu	Glu	Ala
		180					185						190		
Ala	Glu	Phe	Gln	Ala	Glu	Phe	Val	Ser	Thr	Pro	Glu	Leu	Ala	Ala	Gln
	195						200					205			
Ser	Asp	Phe	Ile	Val	Val	Ala	Cys	Ser	Leu	Thr	Pro	Ala	Thr	Glu	Gly



210		215		220
Leu Cys Asn Lys Asp Phe	Phe Gln Lys Met Lys Glu Thr Ala Val Phe			
225	230	235	240	
Ile Asn Ile Ser Arg Gly Asp Val Val Asn Gln Asp Asp Leu Tyr Gln				
	245	250	255	
Ala Leu Ala Ser Gly Lys Ile Ala Ala Gly Leu Asp Val Thr Ser				
	260	265	270	
Pro Glu Pro Leu Pro Thr Asn His Pro Leu Leu Thr Leu Lys Asn Cys				
	275	280	285	
Val Ile Leu Pro His Ile Gly Ser Ala Thr His Arg Thr Arg Asn Thr				
	290	295	300	
Met Ser Leu Leu Ala Ala Asn Asn Leu Leu Ala Gly Leu Arg Gly Glu				
305	310	315	320	
Pro Met Pro Ser Glu Leu Lys Leu				
	325			

<210> 4729  
 <211> 753  
 <212> DNA  
 <213> Homo sapiens

<400> 4729  
 ngctagcagc agcccgacca cgcgttaccg cacgctcgcg cctttccctt gacacggcgg  
 60  
 acgccggagg attggggcgg caatttgtct tttcctttttt tattaataatt atttttcctg  
 120  
 cctgttggtg gatttgggga aattttttgt ttgtttttta tgatttgtat ttgactgaga  
 180  
 gaaacccact gaagacgtct gcgtgagaat agagaccacc gaggccgact cgcggggccgc  
 240  
 tgcaccacc gcccaaggaca aaaggagccc agcgctacta gctgcacccg attcctccca  
 300  
 gtgcttagca tgaagaaggc cgaaatggga cgattcagta tttccccgga tgaagacagc  
 360  
 agcagctaca gttccaacag cgacttcaac tactcctacc ccaccaagca agctgctctg  
 420  
 aaaagccatt atgcagatgt agatcctgaa aaccagaact ttttacttga atcgaatttg  
 480  
 gggaagaaga agtatgaaac agaatttcat ccagggtacta cttccttttg aatgtcagta  
 540  
 tttaatctga gcaatgcat tgtgggcagt ggaatccttg ggctttctta tgccatggct  
 600  
 aatactggaa ttgctctttt tataattctc ttgacatttg tgtcaatatt ttccctgtat  
 660  
 tctgttcac tctttttgaa gactgccaat gaaggagggt ctttattata tgaacaattg  
 720  
 ggatataagg catctggatt agttggaaag ctt  
 753

<210> 4730  
 <211> 148  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 4730

```

Met Lys Lys Ala Glu Met Gly Arg Phe Ser Ile Ser Pro Asp Glu Asp
 1          5          10          15
Ser Ser Ser Tyr Ser Ser Asn Ser Asp Phe Asn Tyr Ser Tyr Pro Thr
 20          25          30
Lys Gln Ala Ala Leu Lys Ser His Tyr Ala Asp Val Asp Pro Glu Asn
 35          40          45
Gln Asn Phe Leu Leu Glu Ser Asn Leu Gly Lys Lys Lys Tyr Glu Thr
 50          55          60
Glu Phe His Pro Gly Thr Thr Ser Phe Gly Met Ser Val Phe Asn Leu
 65          70          75          80
Ser Asn Ala Ile Val Gly Ser Gly Ile Leu Gly Leu Ser Tyr Ala Met
 85          90          95
Ala Asn Thr Gly Ile Ala Leu Phe Ile Ile Leu Leu Thr Phe Val Ser
100          105          110
Ile Phe Ser Leu Tyr Ser Val His Leu Leu Leu Lys Thr Ala Asn Glu
115          120          125
Gly Gly Ser Leu Leu Tyr Glu Gln Leu Gly Tyr Lys Ala Ser Gly Leu
130          135          140
Val Gly Lys Leu
145

```

&lt;210&gt; 4731

&lt;211&gt; 2417

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4731

```

tttttttttt ttttttcagac aagggtacat tttattcctt ataaaaatata tttcatattg
60
ttgctgtaaa aacattacat ttcacatttt taaaaaattt tttaacagta aaaataatac
120
ttggaagaca gctgaggaaa aaggcgccaa taagacaaac tcacagatgg gatattatctc
180
cctcttgctt tttttttttt tttttgcccc tggtaaaagt cagaacctgg gatgaccaga
240
aagtaacagg acagatttct ccagcaaat cagtctccac aaccaaatga atattgttct
300
ccaaggagtc aagctataga ctcaaatga caacgtggcc atgggtcaaa acactctctg
360
aaattacaaa attgctttct gagccaattt aaaagtcaca tgattgaatc caagctattt
420
tactttaaat ggtccttttg ctttgacct gagacctgc ttggccacag acgtcattcg
480
ctggactccc tgggcactaa atgagtgtct agcatcctta aggctgctca acacacagcc
540
ccagactctg aatatgattc caagaaatat tctgaaaaaa gtcacatcgc tgggaataaac
600
agttteccaa gataactgct ttgaaaacca gtcccgtag tttctaaaag cccacctacg
660
gcaccttct tccatcagag tctgctgcc ggggtgggctg ggaaggagg agatacaaag
720
aagaaagtag gcatgatcac tgggtcggtt cccaagccac cctcaccctc caagaaggca
780

```

tgaatggaac aaccccgaga acagagcacg tgtgaagaac caacacgaca ggcacgggat  
840  
ggcagcactg gtggaaggga ggcaaggagg cgcgcagtgc caaggaggag agggggcaca  
900  
agcgcaggca gggaagggtg caccaaaacc tagtaagaac aaagcaaac caccgtggtt  
960  
tccacactgc tctctccctt tattcctctc ttctctgccc tgtataccaa cggcataaga  
1020  
agcctgcaca aagagaaaaa tccgtatatc cagttatatc tacacggtcc aaactggggg  
1080  
cggggggaat tcaaacagct ttctaaagac gagacggcag tgaaaactct gagggagagg  
1140  
ggaaggggag gccctcctga gcgaagttcc catgtgtcaa gaacgtgccc tcccccccc  
1200  
atgaggacct gaagctgggg gttgtcttgg gaagtggagg gggttgggaa acaccatcag  
1260  
cagctgccag ctcttaattc tcaaggagat cgaagggaca ggaaggagag ccctgcgcca  
1320  
cctcaggcta gcctggcttt gagctttacc aagagacaga attccacata cttttttttt  
1380  
tttttactaa gttataaaaa aaaaaacccc atcaccaaag acacctgtgc acaagtgtct  
1440  
gtcccttctg tcaccaacct agggcactac acccttccca acatcatgac cctactgcca  
1500  
ggtctacaga ttttgtaaca ctcaaagtgt cctgcattaa aaagcacgtg tctatttcct  
1560  
acgtgaaggg gccaaaggag ccctggtggc ccaaatatct tcaccagga ctgggagggc  
1620  
ggcctcgatg acaaccaagg ggtggatgct gacactccat cccaggacag gtggctgggt  
1680  
aggattccct gagccccctga cagctgggac atagggccag gacttgtacc cgaggcagct  
1740  
gggcagtggg cagtcacatt ccagtaggcc ctgaggaatc cccaaataag tcacgctggg  
1800  
aggaaagtga gacacaaaaa cagaaacatg ccctgccatc cgggcgtggc tcaactctgtc  
1860  
ttcgcgcagg gctggttggc atggtgctac actcccgaga cctccctcct tctccccaag  
1920  
aacagctctg cttatcgaca tgcacgcagc ccaggctccc ctagatccct ggaggctcca  
1980  
gaaacaccaa gggccaaaac gccagcagcc actaaccaa acccacgtct tcctcctgtc  
2040  
atttcctcat cctgacgctc acgggtgcaa ggactctcct tggccttctt catcctgctt  
2100  
tcaggcagca aacagaaatg gggaaatccc tgggtggggcc aggagacaga aaggaacctc  
2160  
cagaacctcc ctgggtctct cccggccacc caaataaaag aaaactttaa tcagtaaagg  
2220  
cttctgaata catcgtaaaa gaaaacaaag catttctgag gcgtcctttc aataaccgga  
2280  
ggaaggcggc gtcaggaggg tgcttcctcg ggtcagagca gagagtctcc agacgtcaa  
2340  
accctccagg agttcctcga ggaaagagga gagaatgatc aaggtagtgt ttaactgcca  
2400

cattccaaaa agtgaat  
2417

<210> 4732  
<211> 129  
<212> PRT  
<213> Homo sapiens

<400> 4732  
Met Ser Ile Ser Arg Ala Val Leu Gly Glu Lys Glu Gly Gly Leu Gly  
1 5 10 15  
Ser Val Ala Pro Cys Gln Pro Ala Leu Arg Glu Asp Arg Val Ser His  
20 25 30  
Ala Arg Met Ala Gly His Val Ser Val Leu Val Ser His Phe Pro Pro  
35 40 45  
Ser Val Thr Tyr Leu Gly Ile Pro Gln Gly Leu Leu Glu Cys Asp Cys  
50 55 60  
Pro Leu Pro Ser Cys Leu Gly Tyr Lys Ser Trp Pro Tyr Val Pro Ala  
65 70 75 80  
Val Arg Gly Ser Gly Asn Pro Thr Gln Pro Pro Val Leu Gly Trp Ser  
85 90 95  
Val Ser Ile His Pro Leu Val Val Ile Glu Ala Ala Leu Pro Val Leu  
100 105 110  
Gly Glu Asp Ile Trp Ala Thr Arg Ala Pro Leu Ala Pro Ser Arg Arg  
115 120 125  
Lys

<210> 4733  
<211> 543  
<212> DNA  
<213> Homo sapiens

<400> 4733  
nntccggagc tgctggtact cccgattgga gacgtagaac cgttacttgt cgagggcctt  
60  
agcggccgcc gtgacctct cggggatccc acgatgttct tctacctgag caagaaaatt  
120  
tccattccca ataacgtgaa gctgcagtgt gtatcctgga acaaggaaca agggttcata  
180  
gcatgcggtg gtgaagatgg attactgaaa gttttgaaat tagagacgca gacagatgat  
240  
gcaaaattga ggggccttgc agccccagt aacctttcta tgaatcagac tcttgaaggt  
300  
catagtgggt ctgttcaagt tgtaacatgg aatgagcagt atcagaagtt gactaccagt  
360  
gatgaaaacg ggcttatcat tgtgtggatg ttatataaag gctcttggat tgaggagatg  
420  
atcaacaatc gaaataaatc agttgttcgc agtatgagct ggaatgctga cggacagaag  
480  
atctgcattg tatatgaaga tggggctgtg atagttgggt cagtggatgg caatcgtatt  
540  
tgg  
543

<210> 4734  
 <211> 181  
 <212> PRT  
 <213> Homo sapiens

<400> 4734  
 Xaa Pro Glu Leu Leu Val Leu Pro Ile Gly Asp Val Glu Pro Leu Leu  
 1 5 10 15  
 Val Glu Gly Leu Ser Gly Arg Arg Asp Pro Leu Gly Asp Pro Thr Met  
 20 25 30  
 Phe Phe Tyr Leu Ser Lys Lys Ile Ser Ile Pro Asn Asn Val Lys Leu  
 35 40 45  
 Gln Cys Val Ser Trp Asn Lys Glu Gln Gly Phe Ile Ala Cys Gly Gly  
 50 55 60  
 Glu Asp Gly Leu Leu Lys Val Leu Lys Leu Glu Thr Gln Thr Asp Asp  
 65 70 75 80  
 Ala Lys Leu Arg Gly Leu Ala Ala Pro Ser Asn Leu Ser Met Asn Gln  
 85 90 95  
 Thr Leu Glu Gly His Ser Gly Ser Val Gln Val Val Thr Trp Asn Glu  
 100 105 110  
 Gln Tyr Gln Lys Leu Thr Thr Ser Asp Glu Asn Gly Leu Ile Ile Val  
 115 120 125  
 Trp Met Leu Tyr Lys Gly Ser Trp Ile Glu Glu Met Ile Asn Asn Arg  
 130 135 140  
 Asn Lys Ser Val Val Arg Ser Met Ser Trp Asn Ala Asp Gly Gln Lys  
 145 150 155 160  
 Ile Cys Ile Val Tyr Glu Asp Gly Ala Val Ile Val Gly Ser Val Asp  
 165 170 175  
 Gly Asn Arg Ile Trp  
 180

<210> 4735  
 <211> 300  
 <212> DNA  
 <213> Homo sapiens

<400> 4735  
 ntggctcttct cagtacagca tgggtggctgg ggcaggccga gagaatggca tggagacgcc  
 60  
 gatgcacgag aaccgggagt gggagaaggc ccgtcaggcc ctggccagca tcagcaagtc  
 120  
 aggagctgcc ggcggtctctg ccaagtccag cagcaatggg cctgtggcca gtgcacagta  
 180  
 cgtgtcccag gcaaaagcct cagctttgca gcagcagcag tactaccagt ggtaccagca  
 240  
 ggacaactat gcctaccctt acagctacta ctatcccatg cccccaggcc ccggcatgga  
 300

<210> 4736  
 <211> 93  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 4736

```

Met Val Ala Gly Ala Gly Arg Glu Asn Gly Met Glu Thr Pro Met His
 1           5           10           15
Glu Asn Pro Glu Trp Glu Lys Ala Arg Gln Ala Leu Ala Ser Ile Ser
          20           25           30
Lys Ser Gly Ala Ala Gly Gly Ser Ala Lys Ser Ser Ser Asn Gly Pro
        35           40           45
Val Ala Ser Ala Gln Tyr Val Ser Gln Ala Lys Ala Ser Ala Leu Gln
       50           55           60
Gln Gln Gln Tyr Tyr Gln Trp Tyr Gln Gln Asp Asn Tyr Ala Tyr Pro
 65           70           75           80
Tyr Ser Tyr Tyr Tyr Pro Met Pro Pro Gly Pro Gly Met
          85           90

```

&lt;210&gt; 4737

&lt;211&gt; 2602

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4737

```

cctagggggc tctcgcggtt ggggaacata gatggctgaa gacagaatct agagccttca
60
aataatgtgg agatgtttcc accttcaggt tccactgggc tgattcccc ctcccacttt
120
caagctcggc ccctttcaac tctgccaaga atggctccca cctggctctc agacattccc
180
ctggtccaac ccccaggcca tcaagatgtc tcagagaggc ggctagacac ccagagacct
240
caagtgacca tgtgggaacg ggatgtttcc agtgacaggc aggagccagg gcggagaggc
300
aggtcctggg ggctggaggg gtcacaggcc ctgagccagc aggctgaggt gatcgctcgg
360
cagctgcaag agctgcgggc gctggaggag gaggtccggc tcctgcggga gacctcgtg
420
cagcagaaga tgaggctaga ggcccaggcc atggagctag aggctctggc acgggcggag
480
aaggccggcc gagctgaggc tgagggcctg cgtgctgctt tggctggggc tgagggtgtc
540
cggaagaact tggaagaggg gaggcagcgg gagctggaag aggttcagag gctgcaccaa
600
gagcagctgt cctctttgac acaggctcac gaggaggctc tttccagttt gaccagcaag
660
gctgagggct tggagaagtc tctgagtagt ctggaaacca gaagagcagg ggaagccaag
720
gagctggccg aggctcagag ggaggccgag ctgcttcgga agcagctgag caagaccag
780
gaagacttgg aggtcaggt gaccctggtt gagaatctaa gaaaatatgt tggggaacaa
840
gtcccttctg aggtccacag ccagacatgg gaactggagc gacagaagct tctggaaacc
900
atgcagctct tgcaggagga ccgggacagc ctgcatgcca ccgcgagct gctgcaggtg
960
cgggtgcaga gcctcacaca catcctcgcc ctgcaggagg aggagctgac caggaaggtt
1020

```

caaccttcag attccctgga gcctgagttt accaggaagt gccagtcctt gctgaaccgc  
 1080  
 tggcgggaga aggtgtttgc cctcatggtg cagctaaagg cccaggagct ggaacacagt  
 1140  
 gactctgtta agcagctgaa gggacaggtg gcctcactcc aggaaaaagt gacatcccag  
 1200  
 agccaggagc aggccatcct gcagcgatcc ctgcaggaca aagccgcaga ggtggagggtg  
 1260  
 gagcgtatgg gtgccaaggg cctgcagttg gagctgagcc gtgctcagga ggccaggcgt  
 1320  
 tgggtggcagc agcagacagc ctgagccgag gagcagctga ggcttgtggg caatgctgtc  
 1380  
 agcagctctc agatctggct cgagaccacc atggctaagg tggaaagggg tgccgcccag  
 1440  
 cttcccagcc tcaacaaccg actcagctat gctgtccgca aggtccacac cattcggggc  
 1500  
 ctgattgttc gaaagcttgc cttgtctcag ctgcgccagg agagctgtcc cctaccacca  
 1560  
 ccggtcacag atgtgagcct tgagttgcag cagttgcggg aagaacggaa ccgcctggat  
 1620  
 gcagaactgc agctgagtgc ccgcctcatc cagcaggagg tgggccgggc tcgggagcaa  
 1680  
 ggggaggcag agcggcagca gctgagcaag gtggcccagc agctggagca ggagctgcag  
 1740  
 cagacccagg agtccctggc tagcttgggg ctgcagctgg aggtagcacg ccagggccag  
 1800  
 caggagagca cagaggaggc tgccagtctg cggcaggagc tgacccagca gcaggaactc  
 1860  
 tacgggcaag ccctgcaaga aaaggtggct gaagtggaaa ctcggtgcg ggagcaactc  
 1920  
 tcagacacag agaggaggct gaacgaggct cggagggagc atgccaaggc cgtggtctcc  
 1980  
 ttgcgccaga ttcagcgcag agccgcccag gaaaaggagc ggagccagga actcaggcgt  
 2040  
 ctgcaggagg agggccggaa ggaggagggg cagcgactgg cccggcgctt gcaggagcta  
 2100  
 gagaggata agaacctcat gctggccacc ttgcagcagg aaggtctcct ctcccgttac  
 2160  
 aagcagcagc gactgttgac agttcttcct tcctactgg ataagaagaa atctgtggtg  
 2220  
 tccagcccca ggctccaga gtgttcagca tctgcacctg tagcagcagc agtggccacc  
 2280  
 agggagtcca taaaagggtc cctctctgtc ctgctcgatg acctgcagga cctgagtga  
 2340  
 gccatttcca aagaggaagc tgtttgtcaa ggagacaacc ttgacagatg ctccagctcc  
 2400  
 aatccccaga tgagcagcta agcagctgac agttggaggg aaagccagcc tgggggctgg  
 2460  
 gaggatcctg gagaagtggg tggggacaga ccagcccttc cccatcctgg ggttgccctg  
 2520  
 ggggatacca gctgagtctg aattctgtc taaataaaga cgactacaga aggaaaaaaaa  
 2580  
 aaaaaaaaaa aaaaaaaaaa aa  
 2602

<210> 4738  
 <211> 756  
 <212> PRT  
 <213> Homo sapiens

<400> 4738

```

Met Ala Pro Thr Trp Leu Ser Asp Ile Pro Leu Val Gln Pro Pro Gly
 1           5           10           15
His Gln Asp Val Ser Glu Arg Arg Leu Asp Thr Gln Arg Pro Gln Val
           20           25           30
Thr Met Trp Glu Arg Asp Val Ser Ser Asp Arg Gln Glu Pro Gly Arg
           35           40           45
Arg Gly Arg Ser Trp Gly Leu Glu Gly Ser Gln Ala Leu Ser Gln Gln
           50           55           60
Ala Glu Val Ile Val Arg Gln Leu Gln Glu Leu Arg Arg Leu Glu Glu
65           70           75           80
Glu Val Arg Leu Leu Arg Glu Thr Ser Leu Gln Gln Lys Met Arg Leu
           85           90           95
Glu Ala Gln Ala Met Glu Leu Glu Ala Leu Ala Arg Ala Glu Lys Ala
           100          105          110
Gly Arg Ala Glu Ala Glu Gly Leu Arg Ala Ala Leu Ala Gly Ala Glu
           115          120          125
Val Val Arg Lys Asn Leu Glu Glu Gly Arg Gln Arg Glu Leu Glu Glu
130          135          140
Val Gln Arg Leu His Gln Glu Gln Leu Ser Ser Leu Thr Gln Ala His
145          150          155          160
Glu Glu Ala Leu Ser Ser Leu Thr Ser Lys Ala Glu Gly Leu Glu Lys
           165          170          175
Ser Leu Ser Ser Leu Glu Thr Arg Arg Ala Gly Glu Ala Lys Glu Leu
           180          185          190
Ala Glu Ala Gln Arg Glu Ala Glu Leu Leu Arg Lys Gln Leu Ser Lys
           195          200          205
Thr Gln Glu Asp Leu Glu Ala Gln Val Thr Leu Val Glu Asn Leu Arg
210          215          220
Lys Tyr Val Gly Glu Gln Val Pro Ser Glu Val His Ser Gln Thr Trp
225          230          235          240
Glu Leu Glu Arg Gln Lys Leu Leu Glu Thr Met Gln Leu Leu Gln Glu
           245          250          255
Asp Arg Asp Ser Leu His Ala Thr Ala Glu Leu Leu Gln Val Arg Val
           260          265          270
Gln Ser Leu Thr His Ile Leu Ala Leu Gln Glu Glu Glu Leu Thr Arg
           275          280          285
Lys Val Gln Pro Ser Asp Ser Leu Glu Pro Glu Phe Thr Arg Lys Cys
           290          295          300
Gln Ser Leu Leu Asn Arg Trp Arg Glu Lys Val Phe Ala Leu Met Val
305          310          315          320
Gln Leu Lys Ala Gln Glu Leu Glu His Ser Asp Ser Val Lys Gln Leu
           325          330          335
Lys Gly Gln Val Ala Ser Leu Gln Glu Lys Val Thr Ser Gln Ser Gln
           340          345          350
Glu Gln Ala Ile Leu Gln Arg Ser Leu Gln Asp Lys Ala Ala Glu Val
           355          360          365
Glu Val Glu Arg Met Gly Ala Lys Gly Leu Gln Leu Glu Leu Ser Arg

```



```

      370              375              380
Ala Gln Glu Ala Arg Arg Trp Trp Gln Gln Gln Thr Ala Ser Ala Glu
385              390              395              400
Glu Gln Leu Arg Leu Val Val Asn Ala Val Ser Ser Ser Gln Ile Trp
      405              410              415
Leu Glu Thr Thr Met Ala Lys Val Glu Gly Ala Ala Ala Gln Leu Pro
      420              425              430
Ser Leu Asn Asn Arg Leu Ser Tyr Ala Val Arg Lys Val His Thr Ile
      435              440              445
Arg Gly Leu Ile Ala Arg Lys Leu Ala Leu Ala Gln Leu Arg Gln Glu
      450              455              460
Ser Cys Pro Leu Pro Pro Pro Val Thr Asp Val Ser Leu Glu Leu Gln
465              470              475              480
Gln Leu Arg Glu Glu Arg Asn Arg Leu Asp Ala Glu Leu Gln Leu Ser
      485              490              495
Ala Arg Leu Ile Gln Gln Glu Val Gly Arg Ala Arg Glu Gln Gly Glu
      500              505              510
Ala Glu Arg Gln Gln Leu Ser Lys Val Ala Gln Gln Leu Glu Gln Glu
      515              520              525
Leu Gln Gln Thr Gln Glu Ser Leu Ala Ser Leu Gly Leu Gln Leu Glu
      530              535              540
Val Ala Arg Gln Gly Gln Gln Glu Ser Thr Glu Glu Ala Ala Ser Leu
545              550              555              560
Arg Gln Glu Leu Thr Gln Gln Gln Glu Leu Tyr Gly Gln Ala Leu Gln
      565              570              575
Glu Lys Val Ala Glu Val Glu Thr Arg Leu Arg Glu Gln Leu Ser Asp
      580              585              590
Thr Glu Arg Arg Leu Asn Glu Ala Arg Arg Glu His Ala Lys Ala Val
      595              600              605
Val Ser Leu Arg Gln Ile Gln Arg Arg Ala Ala Gln Glu Lys Glu Arg
      610              615              620
Ser Gln Glu Leu Arg Arg Leu Gln Glu Glu Ala Arg Lys Glu Glu Gly
625              630              635              640
Gln Arg Leu Ala Arg Arg Leu Gln Glu Leu Glu Arg Asp Lys Asn Leu
      645              650              655
Met Leu Ala Thr Leu Gln Gln Glu Gly Leu Leu Ser Arg Tyr Lys Gln
      660              665              670
Gln Arg Leu Leu Thr Val Leu Pro Ser Leu Leu Asp Lys Lys Lys Ser
      675              680              685
Val Val Ser Ser Pro Arg Pro Pro Glu Cys Ser Ala Ser Ala Pro Val
      690              695              700
Ala Ala Ala Val Pro Thr Arg Glu Ser Ile Lys Gly Ser Leu Ser Val
705              710              715              720
Leu Leu Asp Asp Leu Gln Asp Leu Ser Glu Ala Ile Ser Lys Glu Glu
      725              730              735
Ala Val Cys Gln Gly Asp Asn Leu Asp Arg Cys Ser Ser Ser Asn Pro
      740              745              750
Gln Met Ser Ser
      755

```

&lt;210&gt; 4739

&lt;211&gt; 684

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4739

gtgcacatgg ggtgcattag gcttgatttg tactctgcag actatggggg aagctgagga  
 60  
 ggaagacttg accagtcttg gtgatgagaa ggccttcacc ctatgaacac aaccaagtct  
 120  
 tagccctctc tctgtctct ttaaactctg aacttctagg atgggagaat gggaactttt  
 180  
 gcagggttgag attcatagtg aaatcgggtc aagaagtgat cagatgcaaa gcacagggca  
 240  
 gttcattact ataccatggc tgaggtcttc ctgggcacca ggccctgggc tcagcacttg  
 300  
 gctcagtctg caccttggac cctgccagag cctccacag caggtgctct caggcaaggc  
 360  
 tgtgtgttg tggccagacg ccttctgacc agcgtgcttt cttgaccaca gatcccttg  
 420  
 ccaagcagga gggaaccatt agcagcctga ggagctggct ggctgggagc ctcggggacc  
 480  
 gcccagcctt gctcccagct caccacaag atgtggacag ctcttgctgt catttggatt  
 540  
 ttctccttgt ccttatctga aagccatgcg gcattccaacg atccacgtaa gtgagaaagc  
 600  
 tgtgtgactg ctggatgggc ccacggtggc cacaagcat gctgagccct tgaaagcagc  
 660  
 atctgcaaac ccaggccaac gcgt  
 684

&lt;210&gt; 4740

&lt;211&gt; 119

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4740

Met	Leu	Leu	Ser	Arg	Ala	Gln	His	Ala	Leu	Trp	Pro	Pro	Trp	Ala	His
1				5					10					15	
Pro	Ala	Val	Thr	Gln	Leu	Ser	His	Leu	Arg	Gly	Ser	Leu	Asp	Ala	Ala
			20					25					30		
Trp	Leu	Ser	Asp	Lys	Asp	Lys	Glu	Lys	Ile	Gln	Met	Ser	Thr	Arg	Ala
		35				40					45				
Val	His	Ile	Leu	Trp	Val	Ser	Trp	Glu	Gln	Gly	Trp	Ala	Val	Pro	Glu
	50					55				60					
Ala	Pro	Ser	Gln	Pro	Ala	Pro	Gln	Ala	Ala	Asn	Gly	Ser	Leu	Leu	Leu
65				70					75					80	
Gly	Gln	Gly	Ile	Cys	Gly	Gln	Glu	Ser	Thr	Leu	Val	Arg	Arg	Arg	Leu
			85				90						95		
Ala	Ser	Asn	Thr	Gln	Pro	Cys	Leu	Arg	Ala	Pro	Ala	Val	Glu	Gly	Ser
			100				105						110		
Gly	Arg	Val	Gln	Gly	Ala	Asp									
			115												

&lt;210&gt; 4741

&lt;211&gt; 411

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 4741  
aaatttactt ctctcagggtc aacaggtggt tttctttctt tttttttttt tttttccctt  
60  
ttttttctta aaaaaaaaaa aggggttttt ctttgcccc cccgttcccc ccccttcccc  
120  
ttccgaaaaa aagaggggaa ttttttaaaa aacccgaaaag gggggaagg ggggggtata  
180  
aaagataaaa tttggttttt tgggggggaa aatttggaaca cccaccctc gggttttttt  
240  
tccccacccc aaaaaatttt aaaagggggc cctaaaaaaa attttttctt taatttccaa  
300  
ataaaaaaaaa aatgggggttc caaaatcatt gaaaaatagg ggggactcca aaaccttgaa  
360  
ttttcccaag ggggaccact aaaatttacc ctttttttgg ggttttgggg g  
411

<210> 4742  
<211> 109  
<212> PRT  
<213> Homo sapiens

<400> 4742  
Met Ile Leu Glu Pro His Phe Phe Phe Ile Trp Lys Leu Lys Lys Lys  
1 5 10 15  
Phe Phe Leu Gly Pro Pro Phe Lys Ile Phe Trp Gly Gly Glu Lys Lys  
20 25 30  
Pro Glu Gly Gly Val Ser Lys Phe Ser Pro Pro Lys Asn Gln Ile Leu  
35 40 45  
Ser Phe Ile Pro Pro Pro Phe Pro Pro Phe Gly Phe Phe Lys Lys Phe  
50 55 60  
Pro Ser Phe Phe Arg Lys Gly Lys Gly Gly Glu Arg Gly Gly Gln Arg  
65 70 75 80  
Lys Thr Pro Phe Phe Leu Arg Lys Lys Arg Glu Lys Lys Lys Lys  
85 90 95  
Lys Glu Arg Lys Thr Pro Val Asp Leu Arg Glu Val Asn  
100 105

<210> 4743  
<211> 473  
<212> DNA  
<213> Homo sapiens

<400> 4743  
gccttgagggt ggaaggcggg aaaatggcgg attcctcggg gcgaggcgct gggaagcctg  
60  
caaccggccc cacaaattct agcagtgcc aagaagaagga taaaagagtt caaggtggaa  
120  
gagtgattga gtcccggtat ctgcagtatg aaaagaagac aacccaaaag gctcctgcag  
180  
gagatgggtc acagacccga gggaagatgt ctgaaggtgg aaggaaatcc agcctgctcc  
240  
agaaaagcaa agcagatagc agtgggggtcg gaaaggtga cctgcagtcc acgttgctgg  
300

aagggcatgg cacagctcca cctgacctgg atctctctgc tattaatgac aaaagcatcg  
 360  
 tcaaaaagac gccacagtta gcaaaaacaa tatcaaagaa acctgagtca acatcatttt  
 420  
 ctgcccctcg gaaaaagagc cgggatttat ctgaagcgaa tggaatgatg gag  
 473

<210> 4744  
 <211> 150  
 <212> PRT  
 <213> Homo sapiens

<400> 4744  
 Met Ala Asp Ser Ser Gly Arg Gly Ala Gly Lys Pro Ala Thr Gly Pro  
 1 5 10 15  
 Thr Asn Ser Ser Ser Ala Lys Lys Lys Asp Lys Arg Val Gln Gly Gly  
 20 25 30  
 Arg Val Ile Glu Ser Arg Tyr Leu Gln Tyr Glu Lys Lys Thr Thr Gln  
 35 40 45  
 Lys Ala Pro Ala Gly Asp Gly Ser Gln Thr Arg Gly Lys Met Ser Glu  
 50 55 60  
 Gly Gly Arg Lys Ser Ser Leu Leu Gln Lys Ser Lys Ala Asp Ser Ser  
 65 70 75 80  
 Gly Val Gly Lys Gly Asp Leu Gln Ser Thr Leu Leu Glu Gly His Gly  
 85 90 95  
 Thr Ala Pro Pro Asp Leu Asp Leu Ser Ala Ile Asn Asp Lys Ser Ile  
 100 105 110  
 Val Lys Lys Thr Pro Gln Leu Ala Lys Thr Ile Ser Lys Lys Pro Glu  
 115 120 125  
 Ser Thr Ser Phe Ser Ala Pro Arg Lys Lys Ser Pro Asp Leu Ser Glu  
 130 135 140  
 Ala Asn Gly Met Met Glu  
 145 150

<210> 4745  
 <211> 666  
 <212> DNA  
 <213> Homo sapiens

<400> 4745  
 gcatggagag aatatgataa gttagaatac gatgtaactg ttaccaggaa ccagatgcaa  
 60  
 gagcagctgg atcaccttgg tgaagttcag acggaatcag caggaattca gcgtgcacag  
 120  
 attcagaaaag aactttggcg aattcaggat gtcattggaag ggctgagtaa acataagcag  
 180  
 caaagaggta ctacagaaat aggtatgata ggatcaaagc ctttctcaac agttaagtac  
 240  
 aaaaatgagg gtccagatta tagactctac aagagtgaac cagagttaac aacagtggca  
 300  
 gaagttgatg aatctaattg agaagaaaaa tcagaacctg tttcagagat agaaacttca  
 360  
 gttgttaaag gttcccactt tctgtgtgga gtagtccttc caagagcaaa atcaccaaca  
 420

cccgaatctt cgacaatagc ttcctatgta accttgagga aaactaagaa gatgatggat  
 480  
 ctaagaacgg aaagaccaag aagtgacgtg gaacagctct gtttggctga aagtactcga  
 540  
 ccaaggatga ctgtggaaga gcaaattggaa agaataagaa gatatacaaca agcgtgcctg  
 600  
 agggagaaga aaaaagggtt aaatggtatc ggtgcttcag accagtcacc cttacaaagc  
 660  
 ccttaa  
 666

<210> 4746  
 <211> 221  
 <212> PRT  
 <213> Homo sapiens

<400> 4746  
 Ala Trp Arg Glu Tyr Asp Lys Leu Glu Tyr Asp Val Thr Val Thr Arg  
 1 5 10 15  
 Asn Gln Met Gln Glu Gln Leu Asp His Leu Gly Glu Val Gln Thr Glu  
 20 25 30  
 Ser Ala Gly Ile Gln Arg Ala Gln Ile Gln Lys Glu Leu Trp Arg Ile  
 35 40 45  
 Gln Asp Val Met Glu Gly Leu Ser Lys His Lys Gln Gln Arg Gly Thr  
 50 55 60  
 Thr Glu Ile Gly Met Ile Gly Ser Lys Pro Phe Ser Thr Val Lys Tyr  
 65 70 75 80  
 Lys Asn Glu Gly Pro Asp Tyr Arg Leu Tyr Lys Ser Glu Pro Glu Leu  
 85 90 95  
 Thr Thr Val Ala Glu Val Asp Glu Ser Asn Gly Glu Glu Lys Ser Glu  
 100 105 110  
 Pro Val Ser Glu Ile Glu Thr Ser Val Val Lys Gly Ser His Phe Pro  
 115 120 125  
 Val Gly Val Val Pro Pro Arg Ala Lys Ser Pro Thr Pro Glu Ser Ser  
 130 135 140  
 Thr Ile Ala Ser Tyr Val Thr Leu Arg Lys Thr Lys Lys Met Met Asp  
 145 150 155 160  
 Leu Arg Thr Glu Arg Pro Arg Ser Ala Val Glu Gln Leu Cys Leu Ala  
 165 170 175  
 Glu Ser Thr Arg Pro Arg Met Thr Val Glu Glu Gln Met Glu Arg Ile  
 180 185 190  
 Arg Arg Tyr Gln Gln Ala Cys Leu Arg Glu Lys Lys Lys Gly Leu Asn  
 195 200 205  
 Val Ile Gly Ala Ser Asp Gln Ser Pro Leu Gln Ser Pro  
 210 215 220

<210> 4747  
 <211> 1091  
 <212> DNA  
 <213> Homo sapiens

<400> 4747  
 ncatgccagg cggaagtcac aactgcatcc gcacgtgggc tcggcgcgat ggaggaggag  
 60

acgcatactg acgccaaaat ccgtgctgaa aatggaacag ggtccagccc tcgggggtcct  
 120  
 ggctgcagcc tccggcactt tgcctgcgaa cagaacctgc tgtcgcggcc agatggctct  
 180  
 gcttccttcc tgcaaggatga cacctctgtc ctggcgggtg tgtacgggcc ggccgaggtg  
 240  
 aaggctcagca aagagatttt caacaaggcc acactcgaag tgatcctgag gccgaagatt  
 300  
 gggctgcctg caggggtcag tggatggcag tcaggccttg ccttcttccc actggaatct  
 360  
 tccatcatcc ctgcaggtgt tgcagagaag agccgggagc ggctgatcag gaacacgtgc  
 420  
 gaggcggtgg tgctgggcac gttgcacccc cgcacctcca tcaccgtggt gctgcaggtt  
 480  
 gtcagcgatg ccggctctct cctggcctgt tgtctgaatg ccgcctgcat ggcattgggtg  
 540  
 gatgcaggtg tgcccatgcg ggctctcttc tgtggggctg cctgcgcctt ggactctgat  
 600  
 gggaccctcg tgctggatcc tacatccaag caagaaaagg aggcccgggc agtcttgacc  
 660  
 tttgccctgg acagcgtgga acggaagctg ctgatgtcca gcaccaaggg gctctactca  
 720  
 gacactgagc tccagcagtg cctggctgcg gcccaggccg cttegcaaca cgtcttccgt  
 780  
 ttctaccggg aatcgctgca gaggcgttac tccaagagct gaggcaagct ggggcaaggg  
 840  
 gccgctccca ttgcctccac ccactcacc cctacagcct gaagcaaacc agcagcccag  
 900  
 ccttgccctt ctgacccatg ggctccttga gcctgcagct ctgtaaccac agggctcctg  
 960  
 tggggaggcc ttggcctgtg acagcccccga ggctggggg cacagatccc cccagcaagg  
 1020  
 ataacattca aaggagctca catttatgga atggatgaat caataaatta attcacttta  
 1080  
 aaaaaaaaaa a  
 1091

&lt;210&gt; 4748

&lt;211&gt; 273

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4748

Xaa	Cys	Gln	Ala	Glu	Val	Thr	Thr	Ala	Ser	Ala	Arg	Gly	Leu	Gly	Ala
1				5					10				15		
Met	Glu	Glu	Glu	Thr	His	Thr	Asp	Ala	Lys	Ile	Arg	Ala	Glu	Asn	Gly
			20					25				30			
Thr	Gly	Ser	Ser	Pro	Arg	Gly	Pro	Gly	Cys	Ser	Leu	Arg	His	Phe	Ala
		35				40					45				
Cys	Glu	Gln	Asn	Leu	Leu	Ser	Arg	Pro	Asp	Gly	Ser	Ala	Ser	Phe	Leu
	50					55				60					
Gln	Gly	Asp	Thr	Ser	Val	Leu	Ala	Gly	Val	Tyr	Gly	Pro	Ala	Glu	Val
65					70					75				80	
Lys	Val	Ser	Lys	Glu	Ile	Phe	Asn	Lys	Ala	Thr	Leu	Glu	Val	Ile	Leu

```
<210> 4749
<211> 2196
<212> DNA
<213> Homo sapiens
```

```

<400> 4749
nnacgcgtct catccatggc ttccgcggac tcgcgccggc tggcagatgg cggcgggtgcc
60
gggggcacct tccagcccta cctagacacc ttgcggcagg agctgcagca gacggaccca
120
acgctgttgt cagtagtggt ggcggttctt gcggtgctgc tgacgctagt cttctggaag
180
ttaatccgga gcagaaggag cagtcagaga gctgttcttc ttgttggcct ttgtgattcc
240
gggaaaacgt tgctctttgt caggttgtta acaggccttt atagagacac tcagacgtcc
300
attactgaca gctgtgctgt atacagagtc aacaataaca ggggcaatag tctgaccttg
360
attgaccttc ccggccatga gagtttgagg cttcagttct tagagcggtt taagtcttca
420
gccagggcta ttgtgtttgt tgtggatagt gcagcattcc agcgagaggt gaaagatgtg
480
gctgagtttc tgtatcaagt cctcattgac agtatgggtc tgaagaatac accatcattc
540
ttaatagcct gcaataagca agatattgca atggcaaaat cagcaaagtt aattcaacag
600
cagctggaga aagaactcaa caccttacga gttaccggtt ctgctgcccc cagcacactg
660

```

gacagttcca gcactgcccc tgctcagctg gggaagaaag gcaaagagtt tgaattctca  
720  
cagttgcccc tcaaagtgga gttcctggag tgcagtgccca aggggtggaag agggggacgtg  
780  
ggctctgctg acatccagga cttggagaaa tggctggcta aaattgcctg agaggcagct  
840  
ctaaagcaca agacctggat gtgtgacaca cagttttgga aaaaggctctg tggtagtctg  
900  
gagttgatga ggaaggggta caagatgtgg ttagaaacat ttctttgttc tggaaacaaa  
960  
gtactgttga aaccagcttg gaattttttt tttttttttt ttaagttcag ttctccctta  
1020  
tggctgcctt tcaaacaagt accttttatc tgatgcctgt atcttccctt tgttaagggtg  
1080  
taacttgatg taggggtcaag gtttttgtga caacaggcag actccacaca gagaggatat  
1140  
gatgagaata tggccatcac ctgaaaagtt ttcttatctt ctgtgctttt ggtccctgga  
1200  
aacaaatccg cctatgtatg aagctagttg atttccagtt gcactatttc cagttgcctc  
1260  
tgaagttcac aggcaataca ttgtctagtc ctttgcgaaat ttctctgatt tgtgggcaca  
1320  
gttatgaagt ttccccacat gtgaagacag gtacaaaata gcagagccaa gcagacagtg  
1380  
gggtctattct tcattagctc agtgacttgt ccacactcgt cttagcactt acgtttcaaa  
1440  
agcttggtcac aaacccttgg agtcattccc agataataga actggaaatg ataaatcccc  
1500  
taatgccaaag ggtctagtggt gttcttagtg gttatactgg gaagtgtgtg gagatttagg  
1560  
tgctgctctg ctgctctgga tggctgaagg ctctggggcc atcttcatgt gctgcttgaa  
1620  
gagctcctat tttgtactcc tggctagaat gctgtggaac aaatacaaag tgaaaaaagt  
1680  
tctctgtaga tttctgaagt gcatattcat tgatgccaaag aaaaaaaaaa aagttgcctt  
1740  
tttgaagtga tgttttttgc tgtcttctta aacacaaggc ttttttgaat gattagtata  
1800  
tttcatggta aagaaaacag cctgtctggc tcaaagcaat taaatagaat gtaatgggtga  
1860  
gtacaaatga gtgcacatgt caggactcag gtctaactcc ttgtctcctg agcctaaaga  
1920  
ttgcaacata cacaagaaca cactcctatt cctacccccac aactcaggg acaagcccaa  
1980  
ctaaagctta caaggagacc aggggtggctc tgtccagggg agaagccagt tatggaacag  
2040  
tgcattgaga gccatggtag gagaggccca cagttctctg gagcatgcag caggggcacc  
2100  
ccacctggcc ttgaggatca gggggagtc aaggataaag catggggctg atgacgtctg  
2160  
aggagtggtg atcctccatg tatggcctct gcctgc  
2196

&lt;210&gt; 4750



<211> 276  
 <212> PRT  
 <213> Homo sapiens

<400> 4750  
 Xaa Arg Val Ser Ser Met Ala Ser Ala Asp Ser Arg Arg Leu Ala Asp  
 1 5 10 15  
 Gly Gly Gly Ala Gly Gly Thr Phe Gln Pro Tyr Leu Asp Thr Leu Arg  
 20 25 30  
 Gln Glu Leu Gln Gln Thr Asp Pro Thr Leu Leu Ser Val Val Val Ala  
 35 40 45  
 Val Leu Ala Val Leu Leu Thr Leu Val Phe Trp Lys Leu Ile Arg Ser  
 50 55 60  
 Arg Arg Ser Ser Gln Arg Ala Val Leu Leu Val Gly Leu Cys Asp Ser  
 65 70 75 80  
 Gly Lys Thr Leu Leu Phe Val Arg Leu Leu Thr Gly Leu Tyr Arg Asp  
 85 90 95  
 Thr Gln Thr Ser Ile Thr Asp Ser Cys Ala Val Tyr Arg Val Asn Asn  
 100 105 110  
 Asn Arg Gly Asn Ser Leu Thr Leu Ile Asp Leu Pro Gly His Glu Ser  
 115 120 125  
 Leu Arg Leu Gln Phe Leu Glu Arg Phe Lys Ser Ser Ala Arg Ala Ile  
 130 135 140  
 Val Phe Val Val Asp Ser Ala Ala Phe Gln Arg Glu Val Lys Asp Val  
 145 150 155 160  
 Ala Glu Phe Leu Tyr Gln Val Leu Ile Asp Ser Met Gly Leu Lys Asn  
 165 170 175  
 Thr Pro Ser Phe Leu Ile Ala Cys Asn Lys Gln Asp Ile Ala Met Ala  
 180 185 190  
 Lys Ser Ala Lys Leu Ile Gln Gln Gln Leu Glu Lys Glu Leu Asn Thr  
 195 200 205  
 Leu Arg Val Thr Arg Ser Ala Ala Pro Ser Thr Leu Asp Ser Ser Ser  
 210 215 220  
 Thr Ala Pro Ala Gln Leu Gly Lys Lys Gly Lys Glu Phe Glu Phe Ser  
 225 230 235 240  
 Gln Leu Pro Leu Lys Val Glu Phe Leu Glu Cys Ser Ala Lys Gly Gly  
 245 250 255  
 Arg Gly Asp Val Gly Ser Ala Asp Ile Gln Asp Leu Glu Lys Trp Leu  
 260 265 270  
 Ala Lys Ile Ala  
 275

<210> 4751  
 <211> 2777  
 <212> DNA  
 <213> Homo sapiens

<400> 4751  
 gccagaggcc tgcccaaagt ggggcaaaaa acacagtcac tctgcagggt caggcaacac  
 60  
 ctctcagcc catcaaagta ccacagttta tccccctcc tagactcact ccacgtccaa  
 120  
 actttcttcc acaggttcga cccaagcctg tggcccagaa taacattcct attgccccca  
 180

gcaccacctc ccatgctcgc agctcctcag cttatccaga ggcccgatcat gctgaccaag  
240  
ttcaccacca caacccttcc cacatcccag aattccatcc accccgctccg tgtcgtcaat  
300  
gggcagactg caaccatagc caaaacgttc cccatggccc agctcaccag cattgtgata  
360  
gctactccag ggaccagact cgctggacct caaactgtac agcttagcaa gccaaagtctt  
420  
gaaaaacaga cagttaaattc tcacacagaa acagatgaga aacaaacaga gagccgcacc  
480  
atcaccaccac ctgctgcacc caaaccaaaa cgggaggaga accctcagaa acttgccctc  
540  
atgggtgtctc taggggttggc aacacatgac catctagaag aaatccaaag caagaggcaa  
600  
gagcgaaaaa gaagaacaac agcaaattccg gtctacagtg gagcagtctt tgagccagag  
660  
cgtaagaaga gtgcagtgc atacctaaac agcacaatgc accctgggac ccggaagaga  
720  
gccaatgagg aacactggcc aaagggtgat attcatgagg atttttgcag cgtttgcaga  
780  
aaaagtggcc agttactgat gtgcgacaca tgttcccggtg tatatcattt ggactgctta  
840  
gacccccctc tgaaaacaat tcccaggggc atgtggatct gtcccagatg tcaggaccag  
900  
atgctgaaga aggaagaagc aattccatgg ncctggaact ttagcaattg ttatttccta  
960  
tattgcctac aaagcagcaa aagaagaaga gaaacagaag ttacttaaatt ggagttcaga  
1020  
tttaaaacaa gaacgagaac aactagagca aaagggtgaaa cagctcagca attccataag  
1080  
taaattgcatg gaaatgaaga acaccatcct ggcccggcag aaggagatgc acagctccct  
1140  
ggagaaggta aaacagctga ttgcctcat ccacggcatc gacctctcca aacctgtaga  
1200  
ctctgaggcc actgtggggg gccatctcca atggcccggga ctgcaccccc cctgccaatg  
1260  
ccgccacctc cagccgggcc ccttccccct cctcccagag ctgcacagcg aactgtaacc  
1320  
agggggaaga gactaaataa cagagcccct ctaggagaag ccacgggatc ccggcggcaa  
1380  
ggagaacaga aactgaaga ctctagaaaa gcaaagccgg atttctggaa agtgcagaat  
1440  
tcttttggtt ctttggttcc agagagagag aagatgcttg tgccaggtgg caccagagtt  
1500  
tgccaattga tccttcttat tctgtgtgta catgcaaaga ttggaccatg ttacatgaaa  
1560  
tagtgccagc tggaggttct ttgccagcac catgccaagt gaaataatat atttactctc  
1620  
tctattatac accagtgtgt gcctgcagca gcctccacag ccacgatggg tttgtttctg  
1680  
ttttcttggg tggggagcag ggacgggagg agggaggaga gcaggtttca gatccttact  
1740  
tgccgagccg tttgtttagg tagagaagac aagtccaaag agtgtgtggg ctttctgtt  
1800

tctaaacttt cgctactata aaaccaaaaa aaggaattga gatttcacca accccagtgc  
 1860  
 ccagaagagg gaaggggaggt ggctggaggg agcaggggggt tggacagtgt atcaataaag  
 1920  
 cagtatttaa tcacctctgg cgggggcctc gtgcaagggg agactgacac caagaacagc  
 1980  
 cagtaggttc ttctcccctg cactctgctc cctgcgcggt aaccccacca ctctgaagc  
 2040  
 ctgcccagtc tccttccttc cctgcttggt gagtcgcgca tctccgtggt tatcccgtg  
 2100  
 tctcctctcc aagaacaagc agagccgggc cactagcttg cccaaggcag ggaagaagga  
 2160  
 tgtgtgtgtc caggaaggaa aaaaaggtgg atcagtgatt ttacttgaaa tcaagctcca  
 2220  
 tcccttttct atatttataa gaagagaaga tcttgagtga agcagcacgc gacccaggtg  
 2280  
 tgtgtgaatt gaatggagac gtttcttttc tctttcttta atttttgttt ttgttctttt  
 2340  
 tttctttaag gaaagtttta ttttactgtt cattttactt tcttggtaac aaaaactaaa  
 2400  
 ataaggaata gaaaagctgt ttttcaggct gacagtccaa ttaagggtag ccaagacctt  
 2460  
 gcatcgttaga gtaggaatca tagtgtcagt gaggtcccgt gagtctttgt gagtccttgt  
 2520  
 gtcacgttcc gggcactgtt ttttttatgc aagggcacaaa atctttgtat ctggggaaaa  
 2580  
 aaaacttttt tttaaattaa aaaggaaaat aaaagatatatt gaggtcttcc tagtggtact  
 2640  
 taaattaaga tcaaggtaag aaacattgta aaaaaaaatt acaaaagtgc tatttgtttc  
 2700  
 ctaaaaaacag tgatttctat taaaaaggtg tcagaactgg aaaaaaaaaa aaaaaaaaaa  
 2760  
 aaaaaaaaaa aaaaaaa  
 2777

&lt;210&gt; 4752

&lt;211&gt; 335

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4752

Ala	Arg	Gly	Leu	Pro	Lys	Trp	Gly	Gln	Lys	Thr	Gln	Ser	Leu	Cys	Arg
1				5					10					15	
Phe	Arg	Gln	His	Leu	Leu	Ser	Pro	Ser	Lys	Tyr	His	Ser	Leu	Ser	Pro
			20						25					30	
Leu	Leu	Asp	Ser	Leu	His	Val	Gln	Thr	Phe	Phe	His	Arg	Phe	Asp	Pro
		35					40					45			
Ser	Leu	Trp	Pro	Arg	Ile	Thr	Phe	Leu	Leu	Pro	Pro	Ala	Pro	Pro	Pro
	50					55					60				
Met	Leu	Ala	Ala	Pro	Gln	Leu	Ile	Gln	Arg	Pro	Val	Met	Leu	Thr	Lys
65					70					75					80
Phe	Thr	Pro	Thr	Thr	Leu	Pro	Thr	Ser	Gln	Asn	Ser	Ile	His	Pro	Val
				85					90					95	
Arg	Val	Val	Asn	Gly	Gln	Thr	Ala	Thr	Ile	Ala	Lys	Thr	Phe	Pro	Met

```
<400> 4753
ntccggagtg aggagctcgg tcgccgaagc ggagggagac tcttgagctt catcttgccg
60
ccgccacggc caccgcctgg acctttgccc ggagggagct gcagagggtc catcgccgcc
120
gtcctctgga gggcagcgcg attggggggc cgacactcca gtccgggggg gatTTTTcgt
180
cgtccccctc cccccacca gggagcccga gcggnncgcc aaacaaaggt accagtcgcc
240
gccgcggggag gaggaggagc cggagcctct gcctcagcag ccgctggacc cgccgccctt
300
cttccccatc tctcccccg gcttgctggt tttggggggg agaaggagag aggggactct
360
ggacgtgcca gggtcagatc tcgcctccga ggaagggtgca gctgaacctg gtgttttaga
420
ggataccttg gtcccagagt catcatgaag gcccttgatg agcctcccta tttgacagt
480
ggcactgatg tgagtgctaa atacagagga gccttttgtg aagccaagat caagacagca
540
```

aaaagacttg tcaaagtcaa ggtgacattt agacatgatt cttcaacagt ggaagttcag  
600  
gatgaccaca taaagggccc actaaaggta ggagctattg tggaagtga gaatcttgat  
660  
ggtgcatatc aggaagctgt tatcaataaa ctaacagatg cgagttggta cactgtagtt  
720  
tttgatgacg gagatgagaa gacactgaga cgatcttcac tgtgcctgaa aggagagagg  
780  
cattttgctg aaagtgaac attagaccag ctcccactca ccaaccctga gcattttggc  
840  
actccagtca taggaaagaa aacaaataga ggaagaagat ctaatcatat accagaggaa  
900  
gagtcttcat catcctccag tgatgaagat gaggatgata ggaaacagat tgatgagcta  
960  
ctaggcaaag ttgtatgtgt agattacatt agtttgata aaaagaaagc actgtggttt  
1020  
cctgcattgg tggtttgtcc tgattgtagt gatgagattg ctgtaaaaaa ggacaatatt  
1080  
cttgttcgat ctttcaaaga tggaaaattt acttcagttc caagaaaaga tgtccatgaa  
1140  
attactagtg aactgcacc aaagcctgat gctgttttaa agcaagcctt tgaacaggca  
1200  
cttgaatttc acaaaagtag aactattcct gctaactgga agactgaatt gaaagaagat  
1260  
agctctagca gtgaagcaga ggaagaagag gaggaggaag atgatgaaaa agaaaaggag  
1320  
gataatagca gtgaagaaga agaagaaata gaaccatttc cagaagaaag ggagaacttt  
1380  
cttcagcaat tgtacaaatt tatggaagat agaggtacac ctattaacaa acgacctgta  
1440  
cttggatatc gaaatttgaa tctctttaag ttattcagac ttgtacacaa acttggagga  
1500  
tttgataata ttgaaagtgg agctgtttgg aaacaagtct accaagatct tggaatccct  
1560  
gtcttaaatt cagctgcagg atacaatgtt aaatgtgctt ataaaaata cttatatggt  
1620  
tttgaggagt actgtagatc agccaacatt gaatttcaga tggcattgcc agagaaagtt  
1680  
gttaacaagc aatgtaagga gtgtgaaaat gtaaaagaaa taaaagttaa ggaggaaaat  
1740  
gaaacagaga tcaaagaaat aaagatggag gaggagagga atataatacc aagagaagaa  
1800  
aagcctattg aggatgaaat tgaaagaaaa gaaaatatta agccctctct gggagtaaa  
1860  
aagaatttat tagaatctat acctacacat tctgatcagg aaaaagaagt taacattaaa  
1920  
aaaccagaag acaatgaaaa tctggacgac aaagatgatg acacaactag ggtagatgaa  
1980  
tcctcaaca taaaggtaga agctgaggaa gaaaaagcaa aatctggaga tgaaacgaat  
2040  
aaagaagaag atgaagatga tgaagaagca gaagaggagg aggaggagga agaagaagaa  
2100  
gaggatgaag atgatgatga caacaatgag gaagaggagt ttgagtgcta tccaccaggc  
2160

atgaaagtcc aagtgcggta tggacgaggg aaaaatcaaa aaatgtatga agctagtatt  
2220  
aaagattctg atgtcgaagg tggagaggtc ctttacttgg tgcattactg cggatggaat  
2280  
gtgagatacg atgaatggat taaagcagat aaaatagtaa gacctgctga taaaaatgtg  
2340  
ccaaagataa aacatcggaa gaaaataaag aataaattag acaaagaaaa agacaaagat  
2400  
gaaaaatact ctccaaaaaa ctgtaaactt cggcgcttgt ccaaaccacc atttcagaca  
2460  
aatccatctc ctgaaatggg atccaaactg gatctcactg atgccaaaaa ctctgatact  
2520  
gctcatatta agtccataga aattacttcg atccttaatg gacttcaagc ttctgaaagt  
2580  
tctgctgaag acagtgaagc ggaagatgag agagggtgctc aagacatgga taataatggc  
2640  
aaagaggaat ctaagattga tcatttgacc aacaacagaa atgatcttat ttcaaaggag  
2700  
gaacagaaca gttcatcttt gctagaagaa aacaaagtgc atgcagattt ggtaatatcc  
2760  
aaaccagtgt caaatctcc agaaagatta aggaaagata tagaagtatt atccgaagat  
2820  
actgattatg aagaagatga agtcacaaaaa aagagaaaagg atgtcaagaa ggacacaaca  
2880  
gataaatctt caaaaccaca aataaaacgt ggtaaaagaa ggtattgcaa tacagaagag  
2940  
tgtctaaaaa ctggatcacc tggcaaaaag gaagagaagg ccaagaacaa agaatcactt  
3000  
tgcattggaaa acagtagcac agctcttcag atgaagatga agaagaacaa agcaaagatg  
3060  
acaccaacta agaaatacaa tggtttggag gaaaaaagaa aatctctacg gacaactggg  
3120  
ttctattcag gattttcaga agtggcagaa aaaaggatta aactttttaa taactctgat  
3180  
gaaagacttc aaaacagcag ggccaaagat cgaaaagatg tctgggtcaag tattcagggg  
3240  
cagtggccta aaaaaacgct gaaagagctt ttttcagact ctgatactga ggctgcagct  
3300  
tccccaccgc atcctgcccc agaggagggg gtggcagagg agtcactgca gactgtggct  
3360  
gaagaggaga gttgttcacc cagtgtagaa ctagaaaaac cacctccagt caatgtcgat  
3420  
agtaaaccce ttgaagaaaa aacagtagag gtcaatgaca gaaaagcaga atttccaagt  
3480  
agtggcagta attcagtgtt aaatacccct cctactacac ctgaatcgcc ttcatcagtc  
3540  
actgtaacag aaggcagccg gcagcagctt tctgtaacag tatcagaacc actgggtcca  
3600  
aaccaagaag aggttcgaag tatcaagagt gaaactgata gcacaattga ggtggatagt  
3660  
gttgctgggg agctccaaga cctccagtct gaaggggaata gctcgccagc aggttttgat  
3720  
gccagtgtga gctcaagcag tagtaatcag ccagaaccag aacatcctga aaaagcctgt  
3780

acaggtcaga aaagagtgaag agatgctcag ggaggaggaa gttcatcaaa aaagcagaaa  
3840  
agaagccata aagcaacagt ggtaaacaac acaaagaagg gaaaaggcac aaatagtagt  
3900  
gatagtgaag aacttttcagc tggtgaaagt ataactaaga gtcagccagt caaatcagtt  
3960  
tccactggaa tgaagtctca tagtaccaaa tctcccgcaa ggacgcagtc tccaggaaaa  
4020  
tgtggaaaga atggtgataa ggatcctgat ctcaaggaac ccagtaatcg attacccaaa  
4080  
gtttacaaat ggagttttca gatgtcggac ctggaaaata tgacaagtgc cgaacgcac  
4140  
acaattcttc aagaaaaact tcaagaaaat cagaaacatt atctgtcatt aaaatctgaa  
4200  
gtagcttcca ttgatcggag gagaaagcgt ttaaagaaga aagagagaga aagtgtctgct  
4260  
acatcctcat cctcctcttc accttcaccc agttccataa acagctgctg ttatgttaac  
4320  
tttagctgaa ccgtcaatgt ccagcgcac acaaaatgga atgtcagttg agtgacaggt  
4380  
gacagcagga cttgctaaag cactttggca cttaatggct gttgagggcc actttttttt  
4440  
tatactgcac agtggcacia aaaaatatca gacaagcact attttaatat ttaaaaattg  
4500  
tttcttgaca agctgacttg gcacttaagt gcactttttt atgaagaaaa agtacaatga  
4560  
actgcttttc ctcaagcaat aattgtttcc aacttgtctg ggaattgtgt gtctggtaac  
4620  
tggaaggcct tccactgtgg caaatggagg cttttcactg cctgtagaga caatacagta  
4680  
agcatagtta aggggtgggt cagaacatgt taagataact tactgtatat gtattccctt  
4740  
gtattttgtt aaagctggaa catttgatat ttttccattt atttatgaaa aaatatgaac  
4800  
ctattttcat ttgtacaagg taattgtttt ttaaagcaag tcaccttagg gtggctttaa  
4860  
ttgtataagt caagcacatg taataaattc aaaacctgca gttaacagga tattagacat  
4920  
caatcctggg aaccaaatat taaagattct ctttaaaaaa gactgaacat gtttacagg  
4980  
ttgaattagg ctaaaaggct ttgcagtggc ttttcattgg ccttcaaatt ggaatggaac  
5040  
tactgtactt tgccattttt ctataaatca gtattttttt ttaattttga tatacattgt  
5100  
gtgaaaaaag aaaaatggcct aataaactgt attaaatctt aaacaatgta taaagattgt  
5160  
acttagccag ttcaaagtgt atattttattc ataatagaatt ataacagtta tattttttgtg  
5220  
ttttctgtaa atgtttcttt ccccttaaata accagataat tcctttggaa tgcttatttt  
5280  
attatgagcc accaccaa  
5298

&lt;210&gt; 4754

<211> 748  
 <212> PRT  
 <213> Homo sapiens

<400> 4754

```

Glu Glu Glu Glu Glu Glu Asp Glu Asp Asp Asp Asp Asn Asn Glu
 1          5          10          15
Glu Glu Glu Phe Glu Cys Tyr Pro Pro Gly Met Lys Val Gln Val Arg
          20          25          30
Tyr Gly Arg Gly Lys Asn Gln Lys Met Tyr Glu Ala Ser Ile Lys Asp
          35          40          45
Ser Asp Val Glu Gly Gly Glu Val Leu Tyr Leu Val His Tyr Cys Gly
          50          55          60
Trp Asn Val Arg Tyr Asp Glu Trp Ile Lys Ala Asp Lys Ile Val Arg
        65          70          75          80
Pro Ala Asp Lys Asn Val Pro Lys Ile Lys His Arg Lys Lys Ile Lys
          85          90          95
Asn Lys Leu Asp Lys Glu Lys Asp Lys Asp Glu Lys Tyr Ser Pro Lys
          100          105          110
Asn Cys Lys Leu Arg Arg Leu Ser Lys Pro Pro Phe Gln Thr Asn Pro
          115          120          125
Ser Pro Glu Met Val Ser Lys Leu Asp Leu Thr Asp Ala Lys Asn Ser
          130          135          140
Asp Thr Ala His Ile Lys Ser Ile Glu Ile Thr Ser Ile Leu Asn Gly
        145          150          155          160
Leu Gln Ala Ser Glu Ser Ser Ala Glu Asp Ser Glu Gln Glu Asp Glu
          165          170          175
Arg Gly Ala Gln Asp Met Asp Asn Asn Gly Lys Glu Glu Ser Lys Ile
          180          185          190
Asp His Leu Thr Asn Asn Arg Asn Asp Leu Ile Ser Lys Glu Glu Gln
          195          200          205
Asn Ser Ser Ser Leu Leu Glu Glu Asn Lys Val His Ala Asp Leu Val
          210          215          220
Ile Ser Lys Pro Val Ser Lys Ser Pro Glu Arg Leu Arg Lys Asp Ile
        225          230          235          240
Glu Val Leu Ser Glu Asp Thr Asp Tyr Glu Glu Asp Glu Val Thr Lys
          245          250          255
Lys Arg Lys Asp Val Lys Lys Asp Thr Thr Asp Lys Ser Ser Lys Pro
          260          265          270
Gln Ile Lys Arg Gly Lys Arg Arg Tyr Cys Asn Thr Glu Glu Cys Leu
          275          280          285
Lys Thr Gly Ser Pro Gly Lys Lys Glu Glu Lys Ala Lys Asn Lys Glu
          290          295          300
Ser Leu Cys Met Glu Asn Ser Ser Thr Ala Leu Gln Met Lys Met Lys
        305          310          315          320
Lys Asn Lys Ala Lys Met Thr Pro Thr Lys Lys Tyr Asn Gly Leu Glu
          325          330          335
Glu Lys Arg Lys Ser Leu Arg Thr Thr Gly Phe Tyr Ser Gly Phe Ser
          340          345          350
Glu Val Ala Glu Lys Arg Ile Lys Leu Leu Asn Asn Ser Asp Glu Arg
          355          360          365
Leu Gln Asn Ser Arg Ala Lys Asp Arg Lys Asp Val Trp Ser Ser Ile
          370          375          380
Gln Gly Gln Trp Pro Lys Lys Thr Leu Lys Glu Leu Phe Ser Asp Ser

```



```

385          390          395          400
Asp Thr Glu Ala Ala Ser Pro Pro His Pro Ala Pro Glu Glu Gly
          405          410          415
Val Ala Glu Glu Ser Leu Gln Thr Val Ala Glu Glu Glu Ser Cys Ser
          420          425          430
Pro Ser Val Glu Leu Glu Lys Pro Pro Pro Val Asn Val Asp Ser Lys
          435          440          445
Pro Ile Glu Glu Lys Thr Val Glu Val Asn Asp Arg Lys Ala Glu Phe
          450          455          460
Pro Ser Ser Gly Ser Asn Ser Val Leu Asn Thr Pro Pro Thr Thr Pro
465          470          475          480
Glu Ser Pro Ser Ser Val Thr Val Thr Glu Gly Ser Arg Gln Gln Ser
          485          490          495
Ser Val Thr Val Ser Glu Pro Leu Ala Pro Asn Gln Glu Glu Val Arg
          500          505          510
Ser Ile Lys Ser Glu Thr Asp Ser Thr Ile Glu Val Asp Ser Val Ala
          515          520          525
Gly Glu Leu Gln Asp Leu Gln Ser Glu Gly Asn Ser Ser Pro Ala Gly
          530          535          540
Phe Asp Ala Ser Val Ser Ser Ser Ser Asn Gln Pro Glu Pro Glu
545          550          555          560
His Pro Glu Lys Ala Cys Thr Gly Gln Lys Arg Val Lys Asp Ala Gln
          565          570          575
Gly Gly Gly Ser Ser Ser Lys Lys Gln Lys Arg Ser His Lys Ala Thr
          580          585          590
Val Val Asn Asn Thr Lys Lys Gly Lys Gly Thr Asn Ser Ser Asp Ser
          595          600          605
Glu Glu Leu Ser Ala Gly Glu Ser Ile Thr Lys Ser Gln Pro Val Lys
          610          615          620
Ser Val Ser Thr Gly Met Lys Ser His Ser Thr Lys Ser Pro Ala Arg
625          630          635          640
Thr Gln Ser Pro Gly Lys Cys Gly Lys Asn Gly Asp Lys Asp Pro Asp
          645          650          655
Leu Lys Glu Pro Ser Asn Arg Leu Pro Lys Val Tyr Lys Trp Ser Phe
          660          665          670
Gln Met Ser Asp Leu Glu Asn Met Thr Ser Ala Glu Arg Ile Thr Ile
          675          680          685
Leu Gln Glu Lys Leu Gln Glu Asn Gln Lys His Tyr Leu Ser Leu Lys
          690          695          700
Ser Glu Val Ala Ser Ile Asp Arg Arg Arg Lys Arg Leu Lys Lys Lys
705          710          715          720
Glu Arg Glu Ser Ala Ala Thr Ser Ser Ser Ser Ser Ser Pro Ser Ser
          725          730          735
Ser Ser Ile Asn Ser Cys Cys Tyr Val Asn Phe Ser
          740          745

```

&lt;210&gt; 4755

&lt;211&gt; 2093

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4755

```

naaacagggtc aggtaaaccc acatgcccaa agtcacacac aaggcagcat tctgaagttc
60

```

agtcgtttca ttttgccata atgaatatga gagatatctt ccatttttcc atcccaattc  
120  
cctatccgcc tgtctgagcc tcaggaaact agcctcatga cttcctccac acacttcctt  
180  
gccctctggt ttctgagtgg gacgtggaga gagggaggag atggaagttg gggcttttat  
240  
tcccacagca ccccccctt acccccgag acttaactaa ggctggcagt ggccttcaac  
300  
caaaggccat agtgtctggt gtacacagcc ctcttgttcc aagtcccggt aaccactgcc  
360  
tccccttgct ctageccctc cgtcttacgc taaccattgt aatttttcta catcctgccc  
420  
acaccattat aaataagtta atgatttatt gtgtcgtctt caaattactg aagtggggag  
480  
tgtgccttct gtttcctggt gtgacgctgc agataatagc aagtaagtta aacagtaagt  
540  
aaatatttcc tatttcagag gaatataaaa catcacactt agtgcttgct tcagcagcat  
600  
atatactaaa attggaacga tacagagaag attagcatga cccctgcgca aggatggcac  
660  
gcaaattcgt gaagcgcttc atatttttcc cctgcagagc caggcacctt caagaccagt  
720  
ctgggtggcta ctccaggcat tgacaagctg accgagaagt cccaggtgtc agaggatggc  
780  
accttgcggt ccctggaacc tgagccccag cagagcttgg aggatggcag cccggctaag  
840  
ggggagccca gccaggcatg gagggagcag cggcgaccgt ccacctcatc agccagtggg  
900  
cagtggagcc caacgccaga gtgggtcctc tcctggaagt cgaagctgcc gctgcagacc  
960  
atcatgaggc tgctgcaggt gctgggtccg caggtggaga agatctgcat cgacaagggc  
1020  
ctgacggatg agtctgagat cctgcggttc ctgcagcatg gcacctgggt ggggctgctg  
1080  
cccggtcccc accccatcct catccgcaag taccaggcca actcgggcac tgccatgtgg  
1140  
ttccgcacct acatgtgggg cgctcatctat ctgaggaatg tggaccccc tgtctggtac  
1200  
gacaccgacg tgaagctggt tgagatacag cgggtgtgag gatgaagccg acgaggggct  
1260  
cagtctaggg gaaggcaggg ccttggtccc tgaggcttcc cccatccacc attctgagct  
1320  
ttaaattacc acgatcaggg cctggaacag gcagagtggc cctgagtgtc atgcctaga  
1380  
gacccctgtg gccaggacaa tgtgaactgg ctgagatccc cctcaacccc taggctggac  
1440  
tcacaggagc cccatctctg gggctatgcc cccaccagag accactgccc ccaacactcg  
1500  
gactccctct ttaagacctg gctcagtgtt ggccctcag tgcccaccca ctctgtgtt  
1560  
accagcccc agaggcagaa gccaaaatgg gtcactgtgc cctaaggggt ttgaccaggg  
1620  
aaccacgggc tgtcccttga ggtgcctgga cagggttaagg ggggtgcttc agcctcctaa  
1680

cccaaagcca gctgttccag gctccagggg aaaaaggtgt ggccaggctg ctccctcgagg  
 1740  
 aggctgggag ctggccgact gcaaaagcca gactggggca cctcccgtat ccttggggca  
 1800  
 tgggtgtgggg tggtgagggt ctccctgctat attctcctgg atccatggaa atagcctggc  
 1860  
 tccctcttac ccagtaatga ggggcaggga aggggaactgg gaggcagccg tttagtcctc  
 1920  
 cctgccctgc ccactgcctg gatggggcga tgccaccctt catccttcac ccagctctgg  
 1980  
 cctctgggtc ccaccacca gccccctg tgagaacaat ctttgcctctg tacaatcggc  
 2040  
 ctctttacaa taaaacctcc tgctccacaa aaaaaaaaaa aaaaaaaaaa aaa  
 2093

<210> 4756  
 <211> 188  
 <212> PRT  
 <213> Homo sapiens

<400> 4756  
 Ser Val Pro Tyr Phe Ser Pro Ala Glu Pro Gly Thr Leu Lys Thr Ser  
 1 5 10 15  
 Leu Val Ala Thr Pro Gly Ile Asp Lys Leu Thr Glu Lys Ser Gln Val  
 20 25 30  
 Ser Glu Asp Gly Thr Leu Arg Ser Leu Glu Pro Glu Pro Gln Gln Ser  
 35 40 45  
 Leu Glu Asp Gly Ser Pro Ala Lys Gly Glu Pro Ser Gln Ala Trp Arg  
 50 55 60  
 Glu Gln Arg Arg Pro Ser Thr Ser Ser Ala Ser Gly Gln Trp Ser Pro  
 65 70 75 80  
 Thr Pro Glu Trp Val Leu Ser Trp Lys Ser Lys Leu Pro Leu Gln Thr  
 85 90 95  
 Ile Met Arg Leu Leu Gln Val Leu Val Pro Gln Val Glu Lys Ile Cys  
 100 105 110  
 Ile Asp Lys Gly Leu Thr Asp Glu Ser Glu Ile Leu Arg Phe Leu Gln  
 115 120 125  
 His Gly Thr Leu Val Gly Leu Leu Pro Val Pro His Pro Ile Leu Ile  
 130 135 140  
 Arg Lys Tyr Gln Ala Asn Ser Gly Thr Ala Met Trp Phe Arg Thr Tyr  
 145 150 155 160  
 Met Trp Gly Val Ile Tyr Leu Arg Asn Val Asp Pro Pro Val Trp Tyr  
 165 170 175  
 Asp Thr Asp Val Lys Leu Phe Glu Ile Gln Arg Val  
 180 185

<210> 4757  
 <211> 272  
 <212> DNA  
 <213> Homo sapiens

<400> 4757  
 nccatggaag ccccaaccg gatccgggac actccggaag acatcgtgct ggaagctccg  
 60

gctagtgggc tggcggttcca tccggccccgt gacctactgg ctgcagggga cgtggacggg  
 120  
 gacgtattcg tcttttccta ctcttgccaa gagggagaaa ccaaggagct ggtcatcagg  
 180  
 tcacatctca aggcctgccc agctgtggcc ttctctgaag atgggcagaa gctcattact  
 240  
 gtctccaagg acaaagccat ccatgttcta ga  
 272

<210> 4758

<211> 90

<212> PRT

<213> Homo sapiens

<400> 4758

Xaa	Met	Glu	Ala	Pro	Thr	Arg	Ile	Arg	Asp	Thr	Pro	Glu	Asp	Ile	Val
1				5				10					15		
Leu	Glu	Ala	Pro	Ala	Ser	Gly	Leu	Ala	Phe	His	Pro	Ala	Arg	Asp	Leu
			20				25					30			
Leu	Ala	Ala	Gly	Asp	Val	Asp	Gly	Asp	Val	Phe	Val	Phe	Ser	Tyr	Ser
		35				40				45					
Cys	Gln	Glu	Gly	Glu	Thr	Lys	Glu	Leu	Val	Ile	Arg	Ser	His	Leu	Lys
	50					55				60					
Ala	Cys	Arg	Ala	Val	Ala	Phe	Ser	Glu	Asp	Gly	Gln	Lys	Leu	Ile	Thr
65				70				75					80		
Val	Ser	Lys	Asp	Lys	Ala	Ile	His	Val	Leu						
				85				90							

<210> 4759

<211> 1087

<212> DNA

<213> Homo sapiens

<400> 4759

nccgcccgcg tcggttggcac caatggagag gagctgtctt tcaaccagac gacagcagcc  
 60  
 actgtcagcg tccccagga tggctgccgg ctccggaaag gacagacgaa gacccttttc  
 120  
 gaattcagct cttctcgagc gggatttctg cccctgtggg atgtggcggc cactgacttt  
 180  
 ggccagacga accaaaagtt tgggtttgaa ctgggccccg tctgcttcag cagctgagag  
 240  
 tgtccgggggt gggaggggacc gtgaggggagc cccagaatgg ggtgcatttg gtgctgaggg  
 300  
 tttgaagcca ccgatattttt cgttacctgt gactatggag ccaatgggat gtgacttcgc  
 360  
 tcatcacggg cagtcattcc ttctcctttc cagggtgctg ggggctgggg ttccctggcc  
 420  
 caagggtcca gcctcctctc accccattcc aggtggcata ctgcagtctg gctctttctc  
 480  
 cccctccctcc ccacccaagc ctcacctccc cacccttga acccccatgc aatgagcttc  
 540  
 taactcagag ctgatgaaca aaagcccccc cacccecaat gcctgcctcc tcaactcctcc  
 600

gtcgctgccc ttcacacctt ttggtgctac ccctccccag agttaagcac tggatgtctc  
 660  
 ctgatccccag gctgggaccc ctacccccac cccctttgat cctttctact tccacggtga  
 720  
 aaggactgag gtcggactac agaggggaaga gggacttccc ttgactgggt tgtgtttctt  
 780  
 ttcttgctc agcccagctc tgcaaataccc ctccccctgc cctcacctc cccagggtca  
 840  
 ccttgccatg ccagggtggt tggggaccaa gatgttgggg gggatgaatca ggatccta  
 900  
 ggtgctgccc tatttatacc tgggtctgta ttaaaaggga aagtcccccc tgttgtagat  
 960  
 ttcattctgct tctctcctag ggaaggctgg gatatgatga gagattccag cccaagccc  
 1020  
 gccccccacc gccaggccat agggcataat ttgcatctca aatctgagaa taaactgatg  
 1080  
 aactgtg  
 1087

<210> 4760  
 <211> 78  
 <212> PRT  
 <213> Homo sapiens

<400> 4760  
 Xaa Ala Arg Phe Val Gly Thr Asn Gly Glu Glu Leu Ser Phe Asn Gln  
 1 5 10 15  
 Thr Thr Ala Ala Thr Val Ser Val Pro Gln Asp Gly Cys Arg Leu Arg  
 20 25 30  
 Lys Gly Gln Thr Lys Thr Leu Phe Glu Phe Ser Ser Ser Arg Ala Gly  
 35 40 45  
 Phe Leu Pro Leu Trp Asp Val Ala Ala Thr Asp Phe Gly Gln Thr Asn  
 50 55 60  
 Gln Lys Phe Gly Phe Glu Leu Gly Pro Val Cys Phe Ser Ser  
 65 70 75

<210> 4761  
 <211> 3973  
 <212> DNA  
 <213> Homo sapiens

<400> 4761  
 nccagcccca gcatcgcgcg ccgcagccgc ggccccgcag ctccgcccccc ggccccggccc  
 60  
 ggccccggggc ccgctcgccc gccgccccgc atggagctgt cagccatcgg cgagcaggtg  
 120  
 ttcgccgtgg agagcatccg gaagaagcgc gtgcggaagg gtaaagtcga gtatctggtg  
 180  
 aagtggaaaag gatggcccc aaagtacagc acgtgggagc cagaagagca catcttggac  
 240  
 ccccgctcgc tcatggccta cgaggagaag gaggagagag accgagcatc ggggtatagg  
 300  
 aagagaggtc cgaaacccaa gcggcttctg ctgcagcggc tgtacagcat ggacctgctg  
 360

agctcccaca aggccaaaggg caaggagaag ctctgcttct ccctgacgtg ccactcggc  
420  
agcgggagcc ctgaggggggt ggtcaaggcg ggggcacctg agctggtgga caagggcccc  
480  
ttggtgceca ccctgccctt cccgctccgc aagccccgaa agggccacaa gtacctgcgg  
540  
ctctcgcgca agaagttccc gccccgcggg cccaacctgg agagccacag ccatcgacgg  
600  
gagctcttcc tgcaggagcc accggcccca gacgtcctgc aggcggctgg cgagtgggag  
660  
cctgctgcgc agccccctga agaggaggca gatgccgacc tggccgaggg gccccctccc  
720  
tggacacctg cgctcccctc aagtgaggtg accgtgaccg acatcacgc caactccatc  
780  
accgtcacct tccgcgaggg ccaggcagct gagggtcttct tccgagaccg cagtgggaa  
840  
ttctgaatca ccgtttttac tcttcttaaa ctgttttctt ttgggtcttg ggtgggactt  
900  
ccagagatag ggatgggttg ggggcgggggt aattatttta tttaaaaaaa taccgagcag  
960  
caaaagggga gaagatccca ctactctccc accacctgcc ctttctctga gggacgttta  
1020  
ccacgaggcc tcaggctggg gatggagaga gttgctctgg gagttgggggt accaccccc  
1080  
gggcaggatg gggacaggat cacctgcccg ggacaccacc attatcattc tcctctagt  
1140  
acgcagcagc tggttctggg agttaaagga gcattggaag gcccacccc tctcccttga  
1200  
gtggccaccc cagcctgggt ggctgggttt ccccttttct cttgtttcaa ttgggtcttt  
1260  
accttgaact ctctctctg gctttgcggg gggctgtgga ggctgggttt gacaaaaagt  
1320  
gagtggggcg ggaggaaggg gcaggaggaa gggttgaggt tacttggggc gagtcccttc  
1380  
cccttcagag aggtctctat ccttcccagg gaggaggcgc cgctgagacc cttctgctga  
1440  
gagctctgcc ctccctcat cacctggcct gtgcagaaac gctcatgcac acctggctgc  
1500  
acaggtgtgc acgcattacc ctctcgctgt acgttcccat gtgccccgtg aaagcatgtg  
1560  
tggctgcaga cgtgtccaca tgggccttgc gaacctgggt tagaaacct ggccaggcga  
1620  
acgtgggggtg attcacagca caaaagacct caccaccaca cctgcactca cccaccttg  
1680  
catgcacctt gctacctgct tgcggctttc agtggagggc aggggtcttg cacaggtgcg  
1740  
atggcacccc atgctccagg catacagatg tggtttctcg gctgcaccgg gccaggctgc  
1800  
gggtgtgcag gcgtctgcta agttgtgtga tgtatcagca caggctttga gacgtctgga  
1860  
ccctgtcctt cctcccgtga ggggttcttg ttctttctga ctcaggtgac ttttcagccc  
1920  
ttccaattcc cctctttttc tgcctcccc tccaactcag ccaaccagg tgtgggcagt  
1980

cagggagggga gggagtggtcc caccacgttc tcagggcagc ccttgactcc taagcccctt  
2040  
cctccttcca ttctgcatcc cctccccatc caacctaaat gccacagctg gggctgagct  
2100  
gtattcctgt ggagggacct ctgccgtgcc tctctgaggt caggctgtgc tgtgtgatgg  
2160  
gcaggctttg ccccagccca cccctggcaa ggtgcacttg ttttctgggt tgtacaaggt  
2220  
gtcctggggg cccgtggctt cctgccagt gaggagtgcac ttctccctct cttccagtc  
2280  
tgtaggggag acaaaaccag attggggggc ccaaggggag catggaaaag gccggctccc  
2340  
ctgtctttcc ttggctgtca gagtcagggt aacacacacc aagagtggag tgcggccagc  
2400  
aagtttgaga cctgcccgc ctcctgcag ctctgctctg tgcctcagg aagtcacaga  
2460  
gtctactgag gcaaggagag ggtgattctt tccccaaatc ctttcttccc tggttcccaa  
2520  
accaaagaca gcctgcagcc ctttctgcat ggggtgctct gttgacaggc ttcccagatc  
2580  
cctgagtctc tctttccttc ctcctcgatc tttagtgtgc cacgggtcaat tcagtgttc  
2640  
cattgggggg acagtccct cgggatgac ctgattcacc tccagcccag ggaatggaat  
2700  
ctagaggaat acgtggggtg ggtctggaca aggagcggca ggaatcacca cccatctcca  
2760  
gctgtggagc cctgtggagg ggaaggggaa gcttgggggt cagaggggac tcttccagga  
2820  
gaggggtgcc cagcggaggt aaagatgata gaggggtgtg ggggggtctct agttgaatgt  
2880  
tttggcccat gactttggaa catggctggc agcttccagc agaagtcaag cttcccatcc  
2940  
cccagcggac atgggacctt tttcctgctt cctggtcact ttcaaagaac tatttgcgca  
3000  
atctgtgggt ctgtggattc acggggcttt ctgtgtgggt gctgcagttg cttttgtctg  
3060  
cagcagcagg acacatcttt cctcttactc aggcccttta tggcccatgg ggaactccgt  
3120  
ggctcagggg gagctgaact ccaggggtgt gacctgggac ggggtgggcct gaggtgccc  
3180  
gctcagggca gccaggtggc tcatgggctg tagtgagcca gctccctggg ggaaaaggct  
3240  
gtgggccgtt aggaccatcc tccaggacag gtgacctcta tgaggtcacc tacggctgtg  
3300  
gccgtgcagg cctccttcca gccagagtg gccagtaga gcaaggcaga cagtgcctc  
3360  
cacccecgca gccctcttaa aaggccagta ctcttggggg tggggggagg gtttagaaa  
3420  
catttgccca tctgccttcc tttccccag cccccaccg ctttgaatgt agagaccgt  
3480  
gggcactttt ccttttgtgg tgggggggtgc ggaggaggta cccccacccc tggcacagcc  
3540  
gcctggaatg caggactgtc actgctgttc gggatgatgac ctggttgcca agctcctct  
3600

gtcccttgt tctgggggca ggcgctgtgc ttctgtgagg tggtttagct tttgctttcg  
 3660  
 aagtggccag ctgcggccac caggtctcag cacaagagcg cttcctttgc acagaatgag  
 3720  
 cttcgagctt tgttcagact aaatgaatgt atctgggagg ggtcgggggc acgagttgat  
 3780  
 tccaagcaca tgcttttgc gagtgtgtgt gtgctgggag agtcagagtg gatgtagagc  
 3840  
 gcggttttat tttgtactg acattggtaa gagactgtat agcatctatt tatttagatg  
 3900  
 atttatctgg taaatgaggc aaaaaaatta ttaaaaatac attaaagatg atttaaaaaa  
 3960  
 aagaaaaaaaa aaa  
 3973

<210> 4762

<211> 251

<212> PRT

<213> Homo sapiens

<400> 4762

Met	Glu	Leu	Ser	Ala	Ile	Gly	Glu	Gln	Val	Phe	Ala	Val	Glu	Ser	Ile
1				5					10					15	
Arg	Lys	Lys	Arg	Val	Arg	Lys	Gly	Lys	Val	Glu	Tyr	Leu	Val	Lys	Trp
			20					25					30		
Lys	Gly	Trp	Pro	Pro	Lys	Tyr	Ser	Thr	Trp	Glu	Pro	Glu	Glu	His	Ile
		35					40					45			
Leu	Asp	Pro	Arg	Leu	Val	Met	Ala	Tyr	Glu	Glu	Lys	Glu	Glu	Arg	Asp
	50					55					60				
Arg	Ala	Ser	Gly	Tyr	Arg	Lys	Arg	Gly	Pro	Lys	Pro	Lys	Arg	Leu	Leu
65					70					75				80	
Leu	Gln	Arg	Leu	Tyr	Ser	Met	Asp	Leu	Arg	Ser	Ser	His	Lys	Ala	Lys
				85					90				95		
Gly	Lys	Glu	Lys	Leu	Cys	Phe	Ser	Leu	Thr	Cys	Pro	Leu	Gly	Ser	Gly
			100						105				110		
Ser	Pro	Glu	Gly	Val	Val	Lys	Ala	Gly	Ala	Pro	Glu	Leu	Val	Asp	Lys
		115					120					125			
Gly	Pro	Leu	Val	Pro	Thr	Leu	Pro	Phe	Pro	Leu	Arg	Lys	Pro	Arg	Lys
		130				135					140				
Ala	His	Lys	Tyr	Leu	Arg	Leu	Ser	Arg	Lys	Lys	Phe	Pro	Pro	Arg	Gly
145					150					155					160
Pro	Asn	Leu	Glu	Ser	His	Ser	His	Arg	Arg	Glu	Leu	Phe	Leu	Gln	Glu
				165					170					175	
Pro	Pro	Ala	Pro	Asp	Val	Leu	Gln	Ala	Ala	Gly	Glu	Trp	Glu	Pro	Ala
			180					185					190		
Ala	Gln	Pro	Pro	Glu	Glu	Glu	Ala	Asp	Ala	Asp	Leu	Ala	Glu	Gly	Pro
		195					200					205			
Pro	Pro	Trp	Thr	Pro	Ala	Leu	Pro	Ser	Ser	Glu	Val	Thr	Val	Thr	Asp
	210					215					220				
Ile	Thr	Ala	Asn	Ser	Ile	Thr	Val	Thr	Phe	Arg	Glu	Ala	Gln	Ala	Ala
225					230					235				240	
Glu	Gly	Phe	Phe	Arg	Asp	Arg	Ser	Gly	Lys	Phe					
				245					250						



<210> 4763  
 <211> 2158  
 <212> DNA  
 <213> Homo sapiens

<400> 4763  
 nnatttgggtg gcaatattaa atcttctcac gaaattactg agaaatctac tgaagaaact  
 60  
 gagaaactta aaaatgacca gcaggccaag ataccactaa aaaaacgaga aattaaactg  
 120  
 agtgatgatt ttgacagtcc agtcaaggga cctttgtgta aatcagttac tccaacaaaa  
 180  
 gagtttttga aagatgaaat aaaacaagag gaagagactt gtaaaaggat ctctacaatc  
 240  
 actgcttttg gtcataaggg gaaacagctg gtaaatggag aagttagtga tgaaagggtg  
 300  
 gctccaaatt ttaagacaga accaatagag acaaagtttt atgagacaaa ggaagagagc  
 360  
 tatagccctt ctaaggacag aaatatcatc acggagggaa atggaacaga gtccttaaat  
 420  
 tctgtcataa caagtatgaa aacaggtgag cttgagaaag aaacagcccc tttgaggaaa  
 480  
 gatgcagata gttcaatatc agtcttagag atccatagtc aaaaagcaca aatagaggaa  
 540  
 cccgatcttc cagaaatgga aacttctctt gattcttctg agatggcaaa agatctctct  
 600  
 tcaaaaactg ctttatcttc caccgagtcg tgtaccatga aaggtgaaga gaagtctccc  
 660  
 aaaactaaga aggataagcg cccaccaatc ctagaatgac ttgaaaagtt agagaagtc  
 720  
 aaaaagactt ttcttgataa ggacgcacaa agattgagtc caataccaga agaagttcca  
 780  
 aagagtactc tagagtcaga aaagcctggc tctcctgagg cagctgaaac ttctccacca  
 840  
 tctaatatca ttgaccactg tgagaaacta gcctcagaaa aagaagtggg agaattgccg  
 900  
 agtacaagta ctgttggtgg ccagtctgtg aaaaaagtag acctagaaac cctaaaagag  
 960  
 gattctgagt tcacaaaggt agaaatggat aatctggaca atgcccagac ctctggcata  
 1020  
 gaggagcctt ctgagacaaa gggttctatg caaaaaagca aattcaaata taagttgggt  
 1080  
 cctgaagaag aaaccactgc ctcagaaaat acagagataa cctctgaaag gcagaaagag  
 1140  
 ggcatacaat taacaatcag gatatacagt cggaaaaaga agcccgattc tcccccaaa  
 1200  
 gttctagaac cagaaaacaa gcaagagaag acagaaaagg aagaggagaa aacaaatgtg  
 1260  
 ggtcgtactt taagaagatc tccaagaata tctagacca ctgcaaaagt ggctgagatc  
 1320  
 agagatcaga aagctgataa aaaaagaggg gaaggagaag atgaggtgga agaagagtca  
 1380  
 acagctttgc aaaaactga caaaaaggaa attttgaaaa aatcagagaa agatacaaat  
 1440

tctaaagtaa gcaaggtaaa acccnnaaag gcaaagttcg atggactggt tctcggacac  
 1500  
 gtggcagatg gaaatattcc agcaatgatg aaagtgaagg gtctggcagt gaaaaatcat  
 1560  
 ctgcagcttc agaagaggag gaagaaaagg aaagtgaaga agccatccnt agcagatgat  
 1620  
 gatgaaccat gcaaaaaatg tggccttcca aaccatcctg agctaattct tctgtgtgac  
 1680  
 tcttgcgata gtggatacca tactgcctgc cttcgccctc ctctgatgat catcccagat  
 1740  
 ggagaatggt tctgcccacc ttgccaacat aaactgctct gtgaaaaatt agaggaacag  
 1800  
 ttgcaggatt tggatgttgc cttaaagaag aaagagcgtg ccgaacgaag aaaagaacgc  
 1860  
 ttggtgtatg ttggtatcag tattgaaaac atcattcctc cacaagagcc agacttttct  
 1920  
 gaagatcaag aagaaaagaa aaaagattca aaaaaatcca aagcaaactt gcttgaaagg  
 1980  
 aggtcaacaa gaacaaggaa atgtataagc tacagatttg atgagtttga tgaagcaatt  
 2040  
 gatgaagcta ttgaagatga catcaaagaa gccgatggag gaggagtggg ccgaggaaaa  
 2100  
 gatatctcca ccatcacagg tcatcgtggg aaagacatct ctactatttt ggatgaaa  
 2158

&lt;210&gt; 4764

&lt;211&gt; 719

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4764

Xaa	Phe	Gly	Gly	Asn	Ile	Lys	Ser	Ser	His	Glu	Ile	Thr	Glu	Lys	Ser
1				5					10					15	
Thr	Glu	Glu	Thr	Glu	Lys	Leu	Lys	Asn	Asp	Gln	Gln	Ala	Lys	Ile	Pro
			20					25					30		
Leu	Lys	Lys	Arg	Glu	Ile	Lys	Leu	Ser	Asp	Asp	Phe	Asp	Ser	Pro	Val
		35				40					45				
Lys	Gly	Pro	Leu	Cys	Lys	Ser	Val	Thr	Pro	Thr	Lys	Glu	Phe	Leu	Lys
		50				55					60				
Asp	Glu	Ile	Lys	Gln	Glu	Glu	Glu	Thr	Cys	Lys	Arg	Ile	Ser	Thr	Ile
65				70					75					80	
Thr	Ala	Leu	Gly	His	Glu	Gly	Lys	Gln	Leu	Val	Asn	Gly	Glu	Val	Ser
			85					90					95		
Asp	Glu	Arg	Val	Ala	Pro	Asn	Phe	Lys	Thr	Glu	Pro	Ile	Glu	Thr	Lys
		100						105				110			
Phe	Tyr	Glu	Thr	Lys	Glu	Glu	Ser	Tyr	Ser	Pro	Ser	Lys	Asp	Arg	Asn
	115						120					125			
Ile	Ile	Thr	Glu	Gly	Asn	Gly	Thr	Glu	Ser	Leu	Asn	Ser	Val	Ile	Thr
	130					135					140				
Ser	Met	Lys	Thr	Gly	Glu	Leu	Glu	Lys	Glu	Thr	Ala	Pro	Leu	Arg	Lys
145				150					155					160	
Asp	Ala	Asp	Ser	Ser	Ile	Ser	Val	Leu	Glu	Ile	His	Ser	Gln	Lys	Ala
			165					170					175		
Gln	Ile	Glu	Glu	Pro	Asp	Pro	Pro	Glu	Met	Glu	Thr	Ser	Leu	Asp	Ser

180							185					190			
Ser	Glu	Met	Ala	Lys	Asp	Leu	Ser	Ser	Lys	Thr	Ala	Leu	Ser	Ser	Thr
195							200					205			
Glu	Ser	Cys	Thr	Met	Lys	Gly	Glu	Glu	Lys	Ser	Pro	Lys	Thr	Lys	Lys
210							215					220			
Asp	Lys	Arg	Pro	Pro	Ile	Leu	Glu	Cys	Leu	Glu	Lys	Leu	Glu	Lys	Ser
225	230					235					240				
Lys	Lys	Thr	Phe	Leu	Asp	Lys	Asp	Ala	Gln	Arg	Leu	Ser	Pro	Ile	Pro
245							250					255			
Glu	Glu	Val	Pro	Lys	Ser	Thr	Leu	Glu	Ser	Glu	Lys	Pro	Gly	Ser	Pro
260							265					270			
Glu	Ala	Ala	Glu	Thr	Ser	Pro	Pro	Ser	Asn	Ile	Ile	Asp	His	Cys	Glu
275							280					285			
Lys	Leu	Ala	Ser	Glu	Lys	Glu	Val	Val	Glu	Cys	Gln	Ser	Thr	Ser	Thr
290							295					300			
Val	Gly	Gly	Gln	Ser	Val	Lys	Lys	Val	Asp	Leu	Glu	Thr	Leu	Lys	Glu
305	310					315					320				
Asp	Ser	Glu	Phe	Thr	Lys	Val	Glu	Met	Asp	Asn	Leu	Asp	Asn	Ala	Gln
325							330					335			
Thr	Ser	Gly	Ile	Glu	Glu	Pro	Ser	Glu	Thr	Lys	Gly	Ser	Met	Gln	Lys
340							345					350			
Ser	Lys	Phe	Lys	Tyr	Lys	Leu	Val	Pro	Glu	Glu	Glu	Thr	Thr	Ala	Ser
355							360					365			
Glu	Asn	Thr	Glu	Ile	Thr	Ser	Glu	Arg	Gln	Lys	Glu	Gly	Ile	Lys	Leu
370							375					380			
Thr	Ile	Arg	Ile	Ser	Ser	Arg	Lys	Lys	Lys	Pro	Asp	Ser	Pro	Pro	Lys
385	390					395					400				
Val	Leu	Glu	Pro	Glu	Asn	Lys	Gln	Glu	Lys	Thr	Glu	Lys	Glu	Glu	Glu
405							410					415			
Lys	Thr	Asn	Val	Gly	Arg	Thr	Leu	Arg	Arg	Ser	Pro	Arg	Ile	Ser	Arg
420							425					430			
Pro	Thr	Ala	Lys	Val	Ala	Glu	Ile	Arg	Asp	Gln	Lys	Ala	Asp	Lys	Lys
435							440					445			
Arg	Gly	Glu	Gly	Glu	Asp	Glu	Val	Glu	Glu	Glu	Ser	Thr	Ala	Leu	Gln
450							455					460			
Lys	Thr	Asp	Lys	Lys	Glu	Ile	Leu	Lys	Lys	Ser	Glu	Lys	Asp	Thr	Asn
465	470					475					480				
Ser	Lys	Val	Ser	Lys	Val	Lys	Pro	Xaa	Lys	Ala	Lys	Phe	Asp	Gly	Leu
485							490					495			
Val	Leu	Gly	His	Val	Ala	Asp	Gly	Asn	Ile	Pro	Ala	Met	Met	Lys	Val
500							505					510			
Lys	Gly	Leu	Ala	Val	Lys	Asn	His	Leu	Gln	Leu	Gln	Lys	Arg	Arg	Lys
515							520					525			
Lys	Arg	Lys	Val	Lys	Lys	Pro	Ser	Xaa	Ala	Asp	Asp	Asp	Glu	Pro	Cys
530							535					540			
Lys	Lys	Cys	Gly	Leu	Pro	Asn	His	Pro	Glu	Leu	Ile	Leu	Leu	Cys	Asp
545	550					555					560				
Ser	Cys	Asp	Ser	Gly	Tyr	His	Thr	Ala	Cys	Leu	Arg	Pro	Pro	Leu	Met
565							570					575			
Ile	Ile	Pro	Asp	Gly	Glu	Trp	Phe	Cys	Pro	Pro	Cys	Gln	His	Lys	Leu
580							585					590			
Leu	Cys	Glu	Lys	Leu	Glu	Glu	Gln	Leu	Gln	Asp	Leu	Asp	Val	Ala	Leu
595							600					605			
Lys	Lys	Lys	Glu	Arg	Ala	Glu									

610		615		620
Gly Ile Ser Ile Glu Asn Ile Ile Pro Pro Gln Glu Pro Asp Phe Ser				
625		630		635
Glu Asp Gln Glu Glu Lys Lys Lys Asp Ser Lys Lys Ser Lys Ala Asn				640
	645		650	655
Leu Leu Glu Arg Arg Ser Thr Arg Thr Arg Lys Cys Ile Ser Tyr Arg				
	660		665	670
Phe Asp Glu Phe Asp Glu Ala Ile Asp Glu Ala Ile Glu Asp Asp Ile				
	675		680	685
Lys Glu Ala Asp Gly Gly Gly Val Gly Arg Gly Lys Asp Ile Ser Thr				
	690		695	700
Ile Thr Gly His Arg Gly Lys Asp Ile Ser Thr Ile Leu Asp Glu				
705		710		715

<210> 4765  
 <211> 1707  
 <212> DNA  
 <213> Homo sapiens

<400> 4765  
 ctgcaggcca agtacaacag caccgaggac atgctggatg atgatgggga caccaccatg  
 60  
 agcctgcatt ctcaagcctc tgccacaact cggcatccag agccccggcg cacagagcac  
 120  
 agggtccct cttcaacgtg gcgaccagtg gccctgacct tgctgacttt gtgcttggtg  
 180  
 ctgctgatag ggctggcagc cctggggcct ttgttttttc agtactacca gctctccaat  
 240  
 actggtcaag acaccatttc tcaaatggaa gaaagattag gaaatacgtc ccaagagttg  
 300  
 caatctcttc aagtccagaa tataaagctt gcaggaagtc tgcagcatgt ggctgaaaaa  
 360  
 ctctgtcgtg agctgtataa caaagctgga gcacacaggt gcagcccttg tacagaacaa  
 420  
 tggaaatggc atggagacaa ttgctaccag ttctataaag acagcaaaag ttgggaggac  
 480  
 tgtaaataatt tctgccttag tgaaaactct accatgctga agataaacia acaagaagac  
 540  
 ctggaatttg ccgcgtctca gagctactct gagtttttct actcttattg gacagggcct  
 600  
 ttgcgccctg acagtggcaa ggctggctg tggatggatg gaacccttt cacttctgaa  
 660  
 ctgttccata ttataataga tgtcaccagc ccaagaagca gagactgtgt ggccatcctt  
 720  
 aatgggatga tcttctcaaa ggactgcaaa gaattgaagc gttgtgtctg tgagagaagg  
 780  
 gcaggaatgg tgaagccaga gagcctccat gtccccctg aaacattagg cgaagggtgac  
 840  
 tgattcgccc tctgcaacta caaatagcag agtgagccag gcggtgccaa agcaagggtg  
 900  
 agttgagaca ttgggaaatg gaacataatc aggaaagact atctctctga ctagtaciaa  
 960  
 atgggttctc gtgtttctctg ttcaggatca ccagcatttc tgagcttggg tttatgcacg  
 1020

tattttaacag tcacaagaag tcttattttac atgccaccaa ccaacctcag aaaccataa  
 1080  
 tgtcatctgc cttcttggct tagagataac ttttagctct ctttcttctc aatgtctaata  
 1140  
 atcacctccc tgttttcatg tcttccttac acttgggtgga ataagaaact ttttgaagta  
 1200  
 gaggaataac attgaggttaa catccttttc tctgacagtc aagtagtcca tcagaaattg  
 1260  
 gcagtcactt cccagattgt accagcaaat acacaaggaa ttctttttgt ttgtttcagt  
 1320  
 tcatactagt cccttcccaa tccatcagta aagaccccat ctgccttggtc catgccgttt  
 1380  
 cccaacaggg atgtcacttg atatgagaat ctcaaattctc aatgccttat aagcattcct  
 1440  
 tcctgtgtcc attaagactc tgataattgt ctccctcca taggaatttc tcccaggaaa  
 1500  
 gaaatatatc cccatctccg ttcatatca gaactaccgt cccgatatt cccttcagag  
 1560  
 agattaaaga ccagaaaaaa gtgagcctct tcactctgcac ctgtaatagt ttcagttcct  
 1620  
 attttcttcc attgacccat atttatacct ttcaggtact gaagatttaa taataataaa  
 1680  
 tgtaaatact gtgaaaaaaa aaaaaaa  
 1707

&lt;210&gt; 4766

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4766

Leu Gln Ala Lys Tyr Asn Ser Thr Arg Asp Met Leu Asp Asp Asp Gly  
 1 5 10 15  
 Asp Thr Thr Met Ser Leu His Ser Gln Ala Ser Ala Thr Thr Arg His  
 20 25 30  
 Pro Glu Pro Arg Arg Thr Glu His Arg Ala Pro Ser Ser Thr Trp Arg  
 35 40 45  
 Pro Val Ala Leu Thr Leu Leu Thr Leu Cys Leu Val Leu Leu Ile Gly  
 50 55 60  
 Leu Ala Ala Leu Gly Leu Leu Phe Phe Gln Tyr Tyr Gln Leu Ser Asn  
 65 70 75 80  
 Thr Gly Gln Asp Thr Ile Ser Gln Met Glu Glu Arg Leu Gly Asn Thr  
 85 90 95  
 Ser Gln Glu Leu Gln Ser Leu Gln Val Gln Asn Ile Lys Leu Ala Gly  
 100 105 110  
 Ser Leu Gln His Val Ala Glu Lys Leu Cys Arg Glu Leu Tyr Asn Lys  
 115 120 125  
 Ala Gly Ala His Arg Cys Ser Pro Cys Thr Glu Gln Trp Lys Trp His  
 130 135 140  
 Gly Asp Asn Cys Tyr Gln Phe Tyr Lys Asp Ser Lys Ser Trp Glu Asp  
 145 150 155 160  
 Cys Lys Tyr Phe Cys Leu Ser Glu Asn Ser Thr Met Leu Lys Ile Asn  
 165 170 175  
 Lys Gln Glu Asp Leu Glu Phe Ala Ala Ser Gln Ser Tyr Ser Glu Phe

<400> 4767					
nnngaggagggg	gcgcggtagc	gccgccagag	agggggggtgg	gcaatggccg	ggccccggaa
60					
gtggccccctg	aggaggtaga	tgaatccaag	aaggaggact	tctcggaggc	ggacttggtg
120					
gacgtgagcg	cctacagtgg	gctcggggag	gactctgcgg	gcagtgccct	ggaggaggac
180					
gacgaagacg	acgaggggga	tggggagccc	ccctacgagc	ccgagtcggg	gtgcgtggag
240					
atcccggggc	tgtcggagga	ggaggacca	gccccgagcc	ggaagatcca	tttcagcacg
300					
gcgccccatcc	aagtgttcag	cacttactcc	aacgaggatt	acgatcgtcg	caacgaggat
360					
gtggatccca	tggcagcctc	tgctgagtac	gagctggaga	agcgtgtgga	gaggttggag
420					
ctgttccctg	tggagctgga	gaaggactcc	gagggcctgg	gcatcagcat	catcggcatg
480					
ggcgccgggg	cagacatggg	cctggagaag	ctgggtatct	tcgtcaagac	cgtgacggag
540					
ggtgggtgcgg	cccatcggga	tggcaggatc	caggtgaatg	atctcctggg	ggaggtggat
600					
ggaacaagtc	tgggtgggagt	gacccagagc	ttcgcggcgt	ctgtgctccg	gaacaccaag
660					
ggccgagtg	ggtttatgat	tggccgggag	cggccgggag	agcagagcga	agtggcccag
720					
ctaattcagc	agactttgga	acaggagcga	tggcagcggg	agatgatgga	gcagagatac
780					
gcccagtatg	gggaggatga	cgaggagacg	ggagagtatg	ccactgacga	ggatgaggag
840					
ctgagcccca	cgttcccggg	tgggtgagatg	gccatcgagg	tgtttgagct	agcggagaac
900					
gaggatgcac	tgtcccctgt	ggacatggag	cccgagaagc	tgggtgcacaa	gttcaaggag
960					
ctccagatca	agcatgcggt	cactgaggca	gagatccagc	agctgaaaag	aaagctgcag
1020					

```
<210> 4768
<211> 460
<212> PRT
<213> Homo sapiens
```

<400> 4768															
Xaa	Arg	Arg	Gly	Ala	Val	Ala	Pro	Pro	Glu	Arg	Gly	Val	Gly	Asn	Gly
1				5					10					15	
Arg	Ala	Pro	Glu	Val	Ala	Pro	Glu	Glu	Val	Asp	Glu	Ser	Lys	Lys	Glu
			20					25					30		
Asp	Phe	Ser	Glu	Ala	Asp	Leu	Val	Asp	Val	Ser	Ala	Tyr	Ser	Gly	Leu
		35				40						45			
Gly	Glu	Asp	Ser	Ala	Gly	Ser	Ala	Leu	Glu	Glu	Asp	Glu	Asp	Asp	
	50					55					60				
Glu	Gly	Asp	Gly	Glu	Pro	Pro	Tyr	Glu	Pro	Glu	Ser	Gly	Cys	Val	Glu
65					70					75					80
Ile	Pro	Gly	Leu	Ser	Glu	Glu	Glu	Asp	Pro	Ala	Pro	Ser	Arg	Lys	Ile
				85					90					95	
His	Phe	Ser	Thr	Ala	Pro	Ile	Gln	Val	Phe	Ser	Thr	Tyr	Ser	Asn	Glu
			100					105					110		
Asp	Tyr	Asp	Arg	Arg	Asn	Glu	Asp	Val	Asp	Pro	Met	Ala	Ala	Ser	Ala
		115					120					125			
Glu	Tyr	Glu	Leu	Glu	Lys	Arg	Val	Glu	Arg	Leu	Glu	Leu	Phe	Pro	Val
	130				135						140				
Glu	Leu	Glu	Lys	Asp	Ser	Glu	Gly	Leu	Gly	Ile	Ser	Ile	Ile	Gly	Met
145					150					155					160
Gly	Ala	Gly	Ala	Asp	Met	Gly	Leu	Glu	Lys	Leu	Gly	Ile	Phe	Val	Lys
				165					170					175	
Thr	Val	Thr	Glu	Gly	Gly	Ala	Ala	His	Arg	Asp	Gly	Arg	Ile	Gln	Val
			180					185					190		
Asn	Asp	Leu	Leu	Val	Glu	Val	Asp	Gly	Thr	Ser	Leu	Val	Gly	Val	Thr
		195					200					205			
Gln	Ser	Phe	Ala	Ala	Ser	Val	Leu	Arg	Asn	Thr	Lys	Gly	Arg	Val	Arg
	210					215					220				
Phe	Met	Ile	Gly	Arg	Glu	Arg	Pro	Gly	Glu	Gln	Ser	Glu	Val	Ala	Gln
225					230					235					240
Leu	Ile	Gln	Gln	Thr	Leu	Glu	Gln	Glu	Arg	Trp	Gln	Arg	Glu	Met	Met
				245					250					255	
Glu	Gln	Arg	Tyr	Ala	Gln	Tyr	Gly	Glu	Asp	Asp	Glu	Glu	Thr	Gly	Glu
			260					265					270		
Tyr	Ala	Thr	Asp	Glu	Asp	Glu	Glu	Leu	Ser	Pro	Thr	Phe	Pro	Gly	Gly

	275		280		285										
Glu	Met	Ala	Ile	Glu	Val	Phe	Glu	Leu	Ala	Glu	Asn	Glu	Asp	Ala	Leu
	290					295					300				
Ser	Pro	Val	Asp	Met	Glu	Pro	Glu	Lys	Leu	Val	His	Lys	Phe	Lys	Glu
305					310					315					320
Leu	Gln	Ile	Lys	His	Ala	Val	Thr	Glu	Ala	Glu	Ile	Gln	Gln	Leu	Lys
				325						330				335	
Arg	Lys	Leu	Gln	Ser	Leu	Glu	Gln	Glu	Lys	Gly	Arg	Trp	Arg	Val	Glu
			340					345					350		
Lys	Ala	Gln	Leu	Glu	Gln	Ser	Val	Glu	Glu	Asn	Lys	Glu	Arg	Met	Glu
	355					360					365				
Lys	Leu	Glu	Gly	Tyr	Trp	Gly	Glu	Ala	Gln	Ser	Leu	Cys	Gln	Ala	Val
370						375					380				
Asp	Glu	His	Leu	Arg	Glu	Thr	Gln	Ala	Gln	Tyr	Gln	Ala	Leu	Glu	Arg
385					390					395					400
Lys	Tyr	Ser	Lys	Ala	Lys	Arg	Leu	Ile	Lys	Asp	Tyr	Gln	Gln	Lys	Glu
				405					410					415	
Ile	Glu	Phe	Leu	Lys	Lys	Glu	Thr	Ala	Gln	Arg	Arg	Val	Leu	Glu	Glu
			420					425					430		
Ser	Glu	Leu	Ala	Arg	Lys	Glu	Glu	Met	Asp	Lys	Leu	Leu	Asp	Lys	Ile
	435					440					445				
Ser	Glu	Leu	Glu	Gly	Asn	Leu	Gln	Thr	Leu	Arg	Asn				
450					455						460				

&lt;210&gt; 4769

&lt;211&gt; 1533

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4769

```

tttttttttt tttttttttt tttttttttt tttttttttt ttttttgtcc aaaactcttc
60
tttatattcaa gatgatgttt ctgtggctat gtgtggtatg tggataaaat ctcaatctat
120
ggtcacacga ggggcatttt ccttggtgta agtgtagtct aaaccagtag gaaggaggtt
180
taattgccaa aaccagcgag aactcgggca ctgtggatac tacagtgggc agctgaacga
240
ggaccaagga gaatgtctaa gaggcctcca gccctgcgct cagtgaagac aggacaggaa
300
caacagagca tacatacctt ggaagggtgt gttctgatat actcgtatgg aaagttctga
360
cagggttttct ccctgggaag tgcagcacat accccaacac actggctctg ccagtgtgcc
420
aatcccagat ggtgcttgct ttgtgtgcac ccacacccaa acccctgccc tcccatatgc
480
tcttctgtgt gccaggtag gccctgccct caggcagcag cttctgaaca cattcctctt
540
ggcgagaca aaagaaagta cttcgtctgt ggaattcgag gctgagcctg agttctagca
600
caagaagacc gttgcagtcc agagatgaga aactggacca gaggcaaata atgaacagaa
660
cgggagtcaa gagaaggggt ttctaagatg gagaagtggg ggcgggtgtg gatccagtgg
720

```



gatgtggctt cccaggttg caacccaag gaagtctctg gaagcagcac cagtcttgat  
 780  
 gggggagcag aagagctgcc atcctcagtc aggggccgag tcagggtccg aggagagctg  
 840  
 ctgtccata gtctcgaca tggcatcctg cagggacgta agatgacccc ggggactcat  
 900  
 ccccatggc tggatgactc tgttcctgtt ggggaaaggt gcagtggggc tggagagctt  
 960  
 gtcaaacatg gtcaccagct tcatggcctc gtgtccttc tgctcctctg tcatgcctc  
 1020  
 catagggtta ggaggcttct cctccacctt cccggtcaca gggtttatgc tggctttggc  
 1080  
 ttccttgtag tcatctgtgt ctgtgtctc atcctctgag tactggcctt cgggccggcc  
 1140  
 tcctgccatg agggccctgg cagccagaag gccagcagca ttcccatagc ctgtgtactt  
 1200  
 gatgaatcgg ggcacactct cagagcacag gacaaacaag aactcggcag ccacctctt  
 1260  
 cacatctgtg tccaggtgtg tcatgaggcg gacaagcttg ttccggagca ggtccccac  
 1320  
 ctcaggccga gtctcacat cccgcagagg gggcaggacc tgggccttca ggaacttct  
 1380  
 ggcaggacgg tgcattcggg cacattctgt caacacgctc agcaccgggtg ccacacactc  
 1440  
 cttcagcctg tgggtctggt gcagacgctt ctctaggaag gcaaggaggg cattgatcac  
 1500  
 atccatatta actccataa actctaagga tcc  
 1533

&lt;210&gt; 4770

&lt;211&gt; 237

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4770

Met	Gly	Val	Asn	Met	Asp	Val	Ile	Asn	Ala	Leu	Leu	Ala	Phe	Leu	Glu
1				5					10					15	
Lys	Arg	Leu	His	Gln	Thr	His	Arg	Leu	Lys	Glu	Cys	Val	Ala	Pro	Val
			20					25					30		
Leu	Ser	Val	Leu	Thr	Glu	Cys	Ala	Arg	Met	His	Arg	Pro	Ala	Arg	Lys
		35					40					45			
Phe	Leu	Lys	Ala	Gln	Val	Leu	Pro	Pro	Leu	Arg	Asp	Val	Arg	Thr	Arg
	50					55					60				
Pro	Glu	Val	Gly	Asp	Leu	Leu	Arg	Asn	Lys	Leu	Val	Arg	Leu	Met	Thr
65					70					75				80	
His	Leu	Asp	Thr	Asp	Val	Lys	Arg	Val	Ala	Ala	Glu	Phe	Leu	Phe	Val
				85				90						95	
Leu	Cys	Ser	Glu	Ser	Val	Pro	Arg	Phe	Ile	Lys	Tyr	Thr	Gly	Tyr	Gly
			100					105					110		
Asn	Ala	Ala	Gly	Leu	Leu	Ala	Ala	Arg	Gly	Leu	Met	Ala	Gly	Gly	Arg
		115					120						125		
Pro	Glu	Gly	Gln	Tyr	Ser	Glu	Asp	Glu	Asp	Thr	Asp	Thr	Asp	Glu	Tyr
	130					135					140				
Lys	Glu	Ala	Lys	Ala	Ser	Ile	Asn	Pro	Val	Thr	Gly	Arg	Val	Glu	Glu

145					150					155				160
Lys	Pro	Pro	Asn	Pro	Met	Glu	Gly	Met	Thr	Glu	Glu	Gln	Lys	Glu
				165					170					175
Glu	Ala	Met	Lys	Leu	Val	Thr	Met	Phe	Asp	Lys	Leu	Ser	Ser	Pro
			180					185					190	
Ala	Pro	Phe	Pro	Asn	Arg	Asn	Arg	Val	Ile	Gln	Pro	Met	Gly	Met
		195					200					205		
Pro	Arg	Gly	His	Leu	Thr	Ser	Leu	Gln	Asp	Ala	Met	Cys	Glu	Thr
	210					215					220			
Glu	Gln	Gln	Leu	Ser	Ser	Asp	Pro	Asp	Ser	Asp	Pro	Asp		
225					230					235				

<210> 4771  
 <211> 2653  
 <212> DNA  
 <213> Homo sapiens

<400> 4771  
 nttttttttt ttttttatgg cttctttgag tctttatttc cttggtgagg cagggcccca  
 60  
 ggggtggggtg ggctgcctgg ctgaggetcc tgtagacca ccaacctagg ggcacttttc  
 120  
 tgggcaccac aggtaaggca ctgcctgggg gctggaggag gctggaggag gatgccccaa  
 180  
 ctccccacac tcctcacccc agaccgggga agctggatat cctccgtgtt gtccctctcc  
 240  
 catagctggt ctgaggctgt ggtttacacg caggcacagg taggcgattc tgagcatcaa  
 300  
 cgcagatgga ggggaggggtg agccgtcgtg ggagaactgg cccaagacca gcacctggct  
 360  
 ggtgtcgcca gccccggctg cattggtggg tgaggcaggt ctggctggag tctgggtctg  
 420  
 caggcctggc cggggcaggt tgtgggggac caaggagccc tgggtgtgaa cccactgtg  
 480  
 gaggcagcag gcacctagtg gtgccactgg gacaccggc tccaggactc cggatgtcac  
 540  
 acatgcgtga gtcttggcgt ctacacccc ctcggggcca gtgggtgagc agtggcccgt  
 600  
 ggtccccgcc agagctcccc cagagtggac ttggctccgc cggacacagt gccctgctct  
 660  
 gagctgccgc tggctgctcc acgtctgaga ccacgcgacg ttgcctcatg aactgacgtg  
 720  
 gacagcagca ggggagacgc tgggtggttc tgtggccaag cacagcccgt gtcaggagca  
 780  
 caggccgtgc ctttccag ggggcacact gggcatttct caatggcctt cacaggacgc  
 840  
 aaagggggcac acagaggcag tggggaagct ggagttcttg ggctggcagg gaatggtggc  
 900  
 agccttcttg gccttcatga agggcctggc ttgctgggct aaggtcacag tgttctgagg  
 960  
 tccccacacg cactcagact agaccctccg tacacacca ggctagaccc tccataactca  
 1020  
 cccaggctag accctccata cacaccagg ctagaccctc catactcacc caggctagac  
 1080

cctccatata caccagggt agaccctcca tactcaccca ggctagaccc tccataactca  
1140  
cccaggctag atcctccata cacaccagg ctagactctc cgtactcacc caggctagat  
1200  
cctccgtact caccagggt agaccctccg tactcaccca ggctagaccc tccgtacaca  
1260  
cccaggctag accctccgta cacaccaga ctagaggctt ggggctgaga aaagcagtca  
1320  
tgctcctca ggaattacca gcagagaatg cccagccctc ttgatagtag caataattaa  
1380  
taggtttatc cccaaaggag cggaagctgt ggaatcctcc ccggcaatag gtcttaggg  
1440  
aggggctggg gcacccataga gaagggccct aaatcaggcg ctcagtgtcc ggaacgcagg  
1500  
tctatcccac ccaccagccg gccccaggc ctccttctc cagtccttcc aggatatcgt  
1560  
cagggaggtt ctgggatccc caagtgggtc gaatccgggc tctaaggagt gtccgtggca  
1620  
tataaattag actctgctgt ggcaataaat aagaagctgg aaaaggaaaa agaaaagtta  
1680  
aagcaagaaa gactagagaa aataaaacag cgtgataaga ggctggagtg ggaaatgatg  
1740  
tgcagagtaa agccagatgt tgtccaagac aaagagacag agagaaatct tcagagaatt  
1800  
gcaacaaggg gtgtgggtgca attatttaaat gctgttcaga aacatcaaaa gaatgttgat  
1860  
gaaaaggtta aggaagctgg aagttctatg agaaagcgtg ctaagttgat atcaactgtt  
1920  
tccaagaaag atttcatcag tgttttgaga gggatggatg gaagtacaaa tgagactgct  
1980  
tcaagcagga agaaacaaa agccaaacag actgaagtga aatcagaaga aggcccagg  
2040  
tggaacgatcc tacgtgatga tttcatgatg ggagcatcta tgaaagactg ggacaaggaa  
2100  
agtgatgggc cagatgacag cagaccagaa tctgcaagtg actctgatac ataaagcatc  
2160  
ataggaaata caattgcagt cgttttattt tttctagaaa aatatgtcat cctctgatag  
2220  
ttggggaatt ataaggatac catttgtaag aaagccaaaa gacttttgcc agatttcata  
2280  
tttccctttt tcatgtacac tttatatata cttcattaaa attatatttt aaacccttgt  
2340  
ataattttta gcattgttcc tcagaacatt tgtaaaagga tatatttctg cttgaccagc  
2400  
gagatgtgca ttttgccagg atcatattgg tcatgtctat tgggtgatta tttcagtatc  
2460  
accaatgttt tcagaaatac agtactaatt catcattaaa ctctttgaag ttaatatatt  
2520  
tctgccttct aacttataga ctcaactatg tatctgtagt ttttgggaaat ggttggtgtt  
2580  
ttttgctttg tgttgggaag ttattgagaa aacctatata ataaaattta aaattatagt  
2640  
ttttcaaaaa aaa  
2653

<210> 4772  
 <211> 182  
 <212> PRT  
 <213> Homo sapiens

<400> 4772  
 Gly Val Ser Val Ala Tyr Lys Leu Asp Ser Ala Val Ala Ile Asn Lys  
 1 5 10 15  
 Lys Leu Glu Lys Glu Lys Glu Lys Leu Lys Gln Glu Arg Leu Glu Lys  
 20 25 30  
 Ile Lys Gln Arg Asp Lys Arg Leu Glu Trp Glu Met Met Cys Arg Val  
 35 40 45  
 Lys Pro Asp Val Val Gln Asp Lys Glu Thr Glu Arg Asn Leu Gln Arg  
 50 55 60  
 Ile Ala Thr Arg Gly Val Val Gln Leu Phe Asn Ala Val Gln Lys His  
 65 70 75 80  
 Gln Lys Asn Val Asp Glu Lys Val Lys Glu Ala Gly Ser Ser Met Arg  
 85 90 95  
 Lys Arg Ala Lys Leu Ile Ser Thr Val Ser Lys Lys Asp Phe Ile Ser  
 100 105 110  
 Val Leu Arg Gly Met Asp Gly Ser Thr Asn Glu Thr Ala Ser Ser Arg  
 115 120 125  
 Lys Lys Pro Lys Ala Lys Gln Thr Glu Val Lys Ser Glu Glu Gly Pro  
 130 135 140  
 Gly Trp Thr Ile Leu Arg Asp Asp Phe Met Met Gly Ala Ser Met Lys  
 145 150 155 160  
 Asp Trp Asp Lys Glu Ser Asp Gly Pro Asp Asp Ser Arg Pro Glu Ser  
 165 170 175  
 Ala Ser Asp Ser Asp Thr  
 180

<210> 4773  
 <211> 319  
 <212> DNA  
 <213> Homo sapiens

<400> 4773  
 gctagcagga ggggaggttaa attaagtaaa tggagatggc ctgggatgca ggccagctgg  
 60  
 gaggagtctc cagtgggagg ggcagctcag agagcaacag agggagataa gattcctaaa  
 120  
 tgctgcaggc cccagcccag gcccaacca agcagtctct tcccaccag cccccaggcc  
 180  
 cgggcgga tggggtggcg agtacttgcc tggaccagc atcccatctc ctcagctctc  
 240  
 agcctggacc cagcatccca tctcctcagc tctcaggag gtggaagctg ggaacccac  
 300  
 ccccaacccc ttcaacgct  
 319

<210> 4774  
 <211> 91  
 <212> PRT

<213> Homo sapiens

<400> 4774

```

Met Gln Ala Ser Trp Glu Glu Ser Pro Val Gly Gly Ala Ala Gln Arg
 1             5             10             15
Ala Thr Glu Gly Asp Lys Ile Pro Lys Cys Cys Arg Pro Gln Pro Arg
      20             25             30
Pro Asn Pro Ser Ser Leu Phe Pro Pro Ser Pro Gln Ala Arg Ala Ala
      35             40             45
Met Gly Trp Arg Val Leu Ala Trp Thr Gln His Pro Ile Ser Ser Ala
      50             55             60
Leu Ser Leu Asp Pro Ala Ser His Leu Leu Ser Ser Gln Gly Gly Gly
65             70             75             80
Ser Trp Glu Pro His Pro Gln Pro Leu His Ala
      85             90

```

<210> 4775

<211> 433

<212> DNA

<213> Homo sapiens

<400> 4775

```

ggatcccaca ggagatacct gacaaggact aagaggaggc ttcccagagg gcataacacc
60
tatgctggat cttttggagg aaaaaataat tgtcaggaga aaaggagtga aaaagacctt
120
tggtcttaaa catgaaccaa catggcggat gcttcaagca agtgggggtg ctggggcccta
180
aaggtggaga ggggtgaaat gaaaagactc gcctcttctt ccccccactaa ctccctcctc
240
tggtctgcact gccctccttg ctatttcttt gaacgtgcc aaccataccgc gacctcactg
300
cccttgcaact tgctctctct gcttctccta actatacatg cggctcatcc tgtaacttcc
360
tttcagtttt tgctcacctt cttgaaaagg ctttctctga ccattctggt taatattcca
420
ccccgcttaa acg
433

```

<210> 4776

<211> 97

<212> PRT

<213> Homo sapiens

<400> 4776

```

Met Ala Asp Ala Ser Ser Lys Trp Gly Cys Trp Ala Leu Lys Val Glu
 1             5             10             15
Arg Gly Glu Met Lys Arg Leu Ala Ser Ser Ser Pro Thr Asn Ser Leu
      20             25             30
Leu Trp Leu His Cys Pro Pro Cys Tyr Phe Phe Glu Arg Ala Asn His
      35             40             45
Thr Ala Thr Ser Leu Pro Leu His Leu Leu Ser Leu Leu Leu Leu Thr
      50             55             60
Ile His Ala Ala His Pro Val Thr Ser Phe Gln Phe Leu Leu Thr Phe

```

65                                      70                                      75                                      80  
 Leu Lys Arg Pro Ser Leu Thr Ile Leu Phe Asn Ile Pro Pro Arg Leu  
    85                                      90                                      95  
 Asn

<210> 4777  
 <211> 2200  
 <212> DNA  
 <213> Homo sapiens

<400> 4777  
 gcggccgctg cccgccttaa tcgactgaag aagaaggagt acgtgatggg gctggagagt  
 60  
 cgagtcgagg gtctggcagc cgagaaccag gagctgcggg ccgagaatcg ggagctgggc  
 120  
 aaacgcgtac aggcactgca ggaggagagt cgctacctac gggcagtcctt agccaacgag  
 180  
 actggactgg ctgccttgct gagccggctg agcggcgtgg gactgaggct gaccacctcg  
 240  
 ctcttcagag actcgccgcg cggtgaccac gactacgctc tgccggtggg aaagcagaag  
 300  
 caggacctgc tggagagagg cgactcggcg ggaggagtct gtctccatgt ggacaaggat  
 360  
 aagggtgctg tggagtctct ctccggctgc gcccggaagg cgtcgtcttc tcttaaaatt  
 420  
 ttctttttta ggtgatttcc ttctgccag gctccgttgt aggggttaca gaacagtcgt  
 480  
 tccgcctca caacctgtgg atacagctgt tggggcagaa gagacgggac cagctgctgg  
 540  
 ccacatttcc tgctttattt taaaaggtag tataagaaat gaggaaaaag aggtaatatc  
 600  
 agggcttctg ctgtttttta tttttaacat gttcataatt aaaaagtatt ttccagcagt  
 660  
 ccaaagatgt aagtatctt acacataaaa tgttttattt tgttatttgg ttatgaaaat  
 720  
 ggaatccttg ttcttgaca actgtaaatg ttttggtgct agataatacg atttgagacc  
 780  
 tgaattggtc tttggtttcc agtgcacac agcatatttt gtaaaatcat ctactactgc  
 840  
 acttgagcat gaatgggtag tagccaaact cacaattgg agtgatgaac ctgcttatac  
 900  
 ctaagggcag gagcaagccc ctcaaatgc agctgcatgg gtttttagtg cctactgaat  
 960  
 tatatatata tatacatata tatatatata tataaaccaa aagtagttgg aaagattatt  
 1020  
 tgaaatgact aatttgtgct atctttatga aatatgttaa atgtagcttt tttgaaacag  
 1080  
 aagccttgaa ttgaaattta actaatactt gaacattttg tatatatattc tttgtatata  
 1140  
 attttgatga gtaccaatga caaaaatatg gtgtcataat aaaaccaggg ttgttgatct  
 1200  
 tttagttatg ggctcaaaga atttattcat ctctaactg atattggaaa ataatggatg  
 1260

aaaataggaa aaatgattgt taatgctgac tgtgggtcct aaaagggttct ggaaagcagt  
 1320  
 aagttcattt ttctaaaaac tataacattc tgttgaggta ttttcttcct tacgtcaata  
 1380  
 cttttcctgc attatttgaa attgtgggct ggggagaaac agtagtcaaa gctttctgaa  
 1440  
 ttgagatact ttgaaattcc aagtgtagat ttttagaatg tcattttata aatggcagtt  
 1500  
 tttggaatta cttgataaga acttttgaaa atggaaggat tagtatggcc tatttttaaa  
 1560  
 gctgctttgt taggttcctt atgttttatt aactgtcttt tctcagtttc catttcattt  
 1620  
 tttttttcta gttttggtga cttagtatt ttgtcatttt ttacatcaac ttcattggtct  
 1680  
 tgtttttaca tggtaattgc atgtacttag gatctatcta ataggggctt taaataaatt  
 1740  
 tgggtcatatt tatgtgtaag cacattttac tgtaaatggt tgggtttctg aatttaaaca  
 1800  
 gatctgttta tttcagtatg tagtaaaca tatcttaaag tgtccgattc actactgtt  
 1860  
 aattaaaaaa gttatgatta atgtgaaact gttgtcttac tatttttaga aaattgtggt  
 1920  
 ctggatgatt agcacatgga taaaggagat ttctggaata taaaatggat tgtttttgaa  
 1980  
 atttctaggt ttggctctat ttactgtaat gggtgaaaac aatttagtat ttgggtgacc  
 2040  
 cttttgtttt tcttctaaat gtgcctctgg taaaatacag aactagacta aagatgtagc  
 2100  
 tttttaatat ttgtcttttg atggtggcag gagttcatac attaattgaa ctaacacatc  
 2160  
 atattttgac ctactatttc tatcatattg acttactgtt  
 2200

&lt;210&gt; 4778

&lt;211&gt; 144

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4778

Ala	Ala	Ala	Ala	Arg	Leu	Asn	Arg	Leu	Lys	Lys	Lys	Glu	Tyr	Val	Met
1				5					10					15	
Gly	Leu	Glu	Ser	Arg	Val	Arg	Gly	Leu	Ala	Ala	Glu	Asn	Gln	Glu	Leu
			20					25					30		
Arg	Ala	Glu	Asn	Arg	Glu	Leu	Gly	Lys	Arg	Val	Gln	Ala	Leu	Gln	Glu
		35				40					45				
Glu	Ser	Arg	Tyr	Leu	Arg	Ala	Val	Leu	Ala	Asn	Glu	Thr	Gly	Leu	Ala
	50				55				60						
Arg	Leu	Leu	Ser	Arg	Leu	Ser	Gly	Val	Gly	Leu	Arg	Leu	Thr	Thr	Ser
65					70				75					80	
Leu	Phe	Arg	Asp	Ser	Pro	Ala	Gly	Asp	His	Asp	Tyr	Ala	Leu	Pro	Val
			85					90					95		
Gly	Lys	Gln	Lys	Gln	Asp	Leu	Leu	Glu	Glu	Asp	Asp	Ser	Ala	Gly	Gly
		100					105					110			
Val	Cys	Leu	His	Val	Asp	Lys	Asp	Lys	Val	Ser	Val	Glu	Phe	Cys	Ser

	115		120		125
Ala	Cys	Ala	Arg	Lys	Ala
		Ser	Ser	Ser	Leu
				Lys	Ile
					Phe
					Phe
					Phe
					Arg
	130		135		140

&lt;210&gt; 4779

&lt;211&gt; 4467

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4779

```

gcggaccggc cgggtggagg ccacacgcta ccccgaggct gcgtaggccg cgcgaagggg
60
gacgccgtgc cgtgggcctg gggtcggggg agcagcagac cgggaagcac cgtgaggacc
120
gaggatttgg ggtggaaggc aggcattggc aaacccattt cactgacagg agagcagaga
180
caggacgtgt ctctctccac gtcttccagc cagtaaaaga agccaagctg gagcccaaag
240
ccaggtgttc tgactcccag cgtgggggtc cctgcaccaa ccatgagccg cctgctctgg
300
aggaaggtgg ccggcgccac cgtcggggca gggccgggtc cagctccggg gcgctgggtc
360
tcagctccg tccccgcgtc cgaccccagc gacgggcagc ggcggcggca gcagcagcag
420
cagcagcagc agcagcagca gcagcaacag cagcctcagc agccgcaagt gctatcctcg
480
gagggcgggc agctgcggca caacccattg gacatccaga tgctctcgag agggctgcac
540
gagcaaatct tcgggcaagg aggggagatg cctggcgagg ccgcggtgcg ccgcagcgtc
600
gagcacctgc agaagcacgg gctctggggg cagccagccg tgcccttgcc cgacgtggag
660
ctgcgcctgc cgcacctcta cggggacaac ctggaccagc acttccgcct cctggcccag
720
aagcagagcc tgccctacct ggaggcggcc aacttgctgt tgcaggccca gctgcccccg
780
aagcccccg cttgggcctg ggcggagggc tggaccgggt acggccccga gggggaggcc
840
gtaccctgg ccacccccga ggagcgggca ctgggtgttc acgtggaggt ctgcttggca
900
gagggaaactt gccccacatt ggcgtgggca atatccccct cggcctggta ttcctgggtg
960
agccagcggc tgggtggaaga gcgttactct tggaccagcc agctgtcgcc ggctgacctc
1020
atccccctgg aggtccctac tggtgccagc agccccaccc agagagactg gcaggagcag
1080
ttagtggtgg ggcacaatgt ttcctttgac cgagctcata tcaggagagca gtacctgatc
1140
cagggttccc gcatgcgttt cctggacacc atgagcatgc acatggccat ctcaggggcta
1200
agcagcttcc agcgcagtct gtggatagca gccaaagcagg gcaaacacaa ggtccagccc
1260
cccacaaagc aaggccagaa gtcccagagg aaagccagaa gagggccagc gatctcatcc
1320

```



tgggactggc tggacatcag cagtgtcaac agtctggcag aggtgcacag actttatgta  
1380  
ggggggcctc ccttagagaa ggagcctcga gaactgtttg tgaagggcac catgaaggac  
1440  
attcgtgaga acttccagga cctgatgcag tactgtgccc aggacgtgtg ggccacccat  
1500  
gaggttttcc agcagcagct accgctcttc ttggagaggt gtccccaccc agtgactctg  
1560  
gccggcatgc tggagatggg tgtctcctac ctgcctgtca accagaactg ggagcggttac  
1620  
ctggcagagg cacagggcac ttatgaggag ctccagcggg agatgaagaa gtcgttgatg  
1680  
gatctggcca atgatgcctg ccagctgctc tcaggagaga ggtacaaaga agaccctgg  
1740  
ctctgggacc tggagtggga cctgcaagaa ttaagcaga agaaagctaa gaaggtgaag  
1800  
aaggaaccag ccacagccag caagttgccc atcgaggggg ctggggcccc tggatgaccc  
1860  
atggatcagg aagacctcgg cccctgcagt gaggaggagg agtttcaaca agatgtcatg  
1920  
gcccgcgcct gcttgcagaa gctgaagggg accacagagc tcctgcccga gcggccccag  
1980  
caccttctg gacacctg atggtaccgg aagctctgcc cccggctaga cgacctgca  
2040  
tggaccccgg gcccagcct cctcagcctg cagatgcggg tcacacctaa actcatggca  
2100  
cttacctggg atggcttccc tctgcactac tcagagcgtc atggctgggg ctacttggtg  
2160  
cctgggcggc gggacaacct ggccaagctg ccgacaggta ccacctgga gtcagctggg  
2220  
gtggtctgcc cctacagagc catcgagtcc ctgtacagga agcactgtct cgaacagggg  
2280  
aagcagcagc tgatgcccc aaggagccggc ctggcggagg agttcctgct cactgacaat  
2340  
agtgccatat ggcaaacggg agaagaactg gattacttag aagtggaggc tgaggccaag  
2400  
atggagaact tgcgagctgc agtgccaggc caaccttag ctctgactgc ccgtgggtggc  
2460  
cccaaggaca ccagcccag ctatcaccat ggcaatggac cttacaacga cgtggacatc  
2520  
cctggctgct ggtttttcaa gctgcctcac aaggatggta atagctgtaa tgtgggaagc  
2580  
ccctttgcca aggacttctt gcccaagatg gaggatggca ccctgcaggc tggcccagga  
2640  
ggtgccagtg ggccccgtgc tctggaaatc aacaaaatga tttctttctg gaggaacgcc  
2700  
cataaacgta tcagctccca gatggtggtg tggctgcca ggtcagctct gccccgtgct  
2760  
gtgatcaggc accccgacta tgatgaggaa ggcctctatg gggccatcct gcccgaagt  
2820  
gtgactgccg gcaccatcac tcgccgggct gtggagccca catggctcac cgccagcaat  
2880  
gcccggcctg accgagtagg cagtgagttg aaagccatgg tgcaggcccc acctggctac  
2940

acccttgtgg gtgctgatgt ggactcccaa gagctgtgga ttgcagctgt gcttggagac  
3000  
gcccactttg ccggcatgca tggtgcaca gcctttgggt ggatgacact gcagggcagg  
3060  
aagagcaggg gcaactgatct acacagtaag acagccacta ctgtgggcat cagccgtgag  
3120  
catgccaaaa tcttcaacta cggccgcata tatggtgctg ggcagccctt tgctgagcgc  
3180  
ttactaatgc agtttaacca ccggctcaca cagcaggagg cagctgagaa ggcccagcag  
3240  
atgtacgctg ccaccaaggg cctccgctgg tatcggctgt cggatgaggg cgagtggctg  
3300  
gtgagggagt tgaacctccc agtggacagg actgaggggtg gctggatttc cctgcaggat  
3360  
ctgcgcaagg tccagagaga aactgcaagg aagtcacagt ggaagaagtg ggaggtggtt  
3420  
gctgaacggg catggaaggg gggcacagag tcagaaatgt tcaataagct tgagagcatt  
3480  
gctacgtctg acataccacg taccgccgtg ctgggctgct gcatcagccg agccctggag  
3540  
ccctcggtg tccaggaaga gtttatgacc agccgtgtga attgggtggt acagagctct  
3600  
gctgttgact acttacacct catgcttgtg gccatgaagt ggctgtttga agagtttgcc  
3660  
atagatgggc gcttctgcat cagcatccat gacgaggttc gctacctggt gcgggaggag  
3720  
gaccgctacc gcgctgccct ggccttgcaag atcaccaacc ttttgaccag gtgcatgttt  
3780  
gcctacaagc tgggtctgaa tgacttgccc cagtcagtcg cctttttcag tgcagtcgat  
3840  
atttaccggt gcctcaggaa ggaagtgacc atggattgta aaacccttc caaccaact  
3900  
gggatggaaa ggagatacgg gattccccag ggtgaagcgc tggatattta ccagataatt  
3960  
gaactcacca aaggctcctt ggaaaaacga agccagcctg gaccatagca ctgcctggag  
4020  
gctctgtatt tgctcccggt gagcttcata ggggtggtgc aggcctccaa actcaggctt  
4080  
tcagctgtgc tttttgcaaa agggcttgcc taaggccagc catttttcag tagcaggacc  
4140  
tgccaagaag attccttcta actgaaggtg cagttgaatt cagtgggttc agaaccaaga  
4200  
tgccaacatc ggtgtggact acaggacaag gggcattggt gcttgttggg taaaaatgaa  
4260  
gcagaagccc caaagttcac attaaactcag gcatttcatt tattttttcc ttttcattct  
4320  
ggctgggttct ttgttctgtc ccccatgctc tgatgcagtg ccctagaagg ggaaagaatt  
4380  
aatgctctaa cgtgataaac ctgctccaag gcagtggaaa taaaaagaag gaaaaaaaaa  
4440  
actctaaaaa aaaaaaaaaa aaaaaaa  
4467

&lt;210&gt; 4780

&lt;211&gt; 1241

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens /

&lt;400&gt; 4780

```

Met Ser Arg Leu Leu Trp Arg Lys Val Ala Gly Ala Thr Val Gly Pro
 1           5           10           15
Gly Pro Val Pro Ala Pro Gly Arg Trp Val Ser Ser Ser Val Pro Ala
      20           25           30
Ser Asp Pro Ser Asp Gly Gln Arg Arg Arg Gln Gln Gln Gln Gln Gln
 35           40           45
Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Pro Gln Gln Pro Gln Val Leu
 50           55           60
Ser Ser Glu Gly Gly Gln Leu Arg His Asn Pro Leu Asp Ile Gln Met
65           70           75           80
Leu Ser Arg Gly Leu His Glu Gln Ile Phe Gly Gln Gly Gly Glu Met
      85           90           95
Pro Gly Glu Ala Ala Val Arg Arg Ser Val Glu His Leu Gln Lys His
      100           105           110
Gly Leu Trp Gly Gln Pro Ala Val Pro Leu Pro Asp Val Glu Leu Arg
      115           120           125
Leu Pro Pro Leu Tyr Gly Asp Asn Leu Asp Gln His Phe Arg Leu Leu
      130           135           140
Ala Gln Lys Gln Ser Leu Pro Tyr Leu Glu Ala Ala Asn Leu Leu Leu
145           150           155           160
Gln Ala Gln Leu Pro Pro Lys Pro Pro Ala Trp Ala Trp Ala Glu Gly
      165           170           175
Trp Thr Arg Tyr Gly Pro Glu Gly Glu Ala Val Pro Val Ala Ile Pro
      180           185           190
Glu Glu Arg Ala Leu Val Phe Asp Val Glu Val Cys Leu Ala Glu Gly
      195           200           205
Thr Cys Pro Thr Leu Ala Val Ala Ile Ser Pro Ser Ala Trp Tyr Ser
      210           215           220
Trp Cys Ser Gln Arg Leu Val Glu Glu Arg Tyr Ser Trp Thr Ser Gln
225           230           235           240
Leu Ser Pro Ala Asp Leu Ile Pro Leu Glu Val Pro Thr Gly Ala Ser
      245           250           255
Ser Pro Thr Gln Arg Asp Trp Gln Glu Leu Val Val Gly His Asn
      260           265           270
Val Ser Phe Asp Arg Ala His Ile Arg Glu Gln Tyr Leu Ile Gln Gly
      275           280           285
Ser Arg Met Arg Phe Leu Asp Thr Met Ser Met His Met Ala Ile Ser
      290           295           300
Gly Leu Ser Ser Phe Gln Arg Ser Leu Trp Ile Ala Ala Lys Gln Gly
305           310           315           320
Lys His Lys Val Gln Pro Pro Thr Lys Gln Gly Gln Lys Ser Gln Arg
      325           330           335
Lys Ala Arg Arg Gly Pro Ala Ile Ser Ser Trp Asp Trp Leu Asp Ile
      340           345           350
Ser Ser Val Asn Ser Leu Ala Glu Val His Arg Leu Tyr Val Gly Gly
      355           360           365
Pro Pro Leu Glu Lys Glu Pro Arg Glu Leu Phe Val Lys Gly Thr Met
      370           375           380
Lys Asp Ile Arg Glu Asn Phe Gln Asp Leu Met Gln Tyr Cys Ala Gln

```

```

385          390          395          400
Asp Val Trp Ala Thr His Glu Val Phe Gln Gln Leu Pro Leu Phe
          405          410          415
Leu Glu Arg Cys Pro His Pro Val Thr Leu Ala Gly Met Leu Glu Met
          420          425          430
Gly Val Ser Tyr Leu Pro Val Asn Gln Asn Trp Glu Arg Tyr Leu Ala
          435          440          445
Glu Ala Gln Gly Thr Tyr Glu Glu Leu Gln Arg Glu Met Lys Lys Ser
          450          455          460
Leu Met Asp Leu Ala Asn Asp Ala Cys Gln Leu Leu Ser Gly Glu Arg
465          470          475          480
Tyr Lys Glu Asp Pro Trp Leu Trp Asp Leu Glu Trp Asp Leu Gln Glu
          485          490          495
Phe Lys Gln Lys Lys Ala Lys Lys Val Lys Lys Glu Pro Ala Thr Ala
          500          505          510
Ser Lys Leu Pro Ile Glu Gly Ala Gly Ala Pro Gly Asp Pro Met Asp
          515          520          525
Gln Glu Asp Leu Gly Pro Cys Ser Glu Glu Glu Glu Phe Gln Gln Asp
          530          535          540
Val Met Ala Arg Ala Cys Leu Gln Lys Leu Lys Gly Thr Thr Glu Leu
545          550          555          560
Leu Pro Lys Arg Pro Gln His Leu Pro Gly His Pro Gly Trp Tyr Arg
          565          570          575
Lys Leu Cys Pro Arg Leu Asp Asp Pro Ala Trp Thr Pro Gly Pro Ser
          580          585          590
Leu Leu Ser Leu Gln Met Arg Val Thr Pro Lys Leu Met Ala Leu Thr
          595          600          605
Trp Asp Gly Phe Pro Leu His Tyr Ser Glu Arg His Gly Trp Gly Tyr
          610          615          620
Leu Val Pro Gly Arg Arg Asp Asn Leu Ala Lys Leu Pro Thr Gly Thr
625          630          635          640
Thr Leu Glu Ser Ala Gly Val Val Cys Pro Tyr Arg Ala Ile Glu Ser
          645          650          655
Leu Tyr Arg Lys His Cys Leu Glu Gln Gly Lys Gln Gln Leu Met Pro
          660          665          670
Gln Glu Ala Gly Leu Ala Glu Glu Phe Leu Leu Thr Asp Asn Ser Ala
          675          680          685
Ile Trp Gln Thr Val Glu Glu Leu Asp Tyr Leu Glu Val Glu Ala Glu
          690          695          700
Ala Lys Met Glu Asn Leu Arg Ala Ala Val Pro Gly Gln Pro Leu Ala
705          710          715          720
Leu Thr Ala Arg Gly Gly Pro Lys Asp Thr Gln Pro Ser Tyr His His
          725          730          735
Gly Asn Gly Pro Tyr Asn Asp Val Asp Ile Pro Gly Cys Trp Phe Phe
          740          745          750
Lys Leu Pro His Lys Asp Gly Asn Ser Cys Asn Val Gly Ser Pro Phe
          755          760          765
Ala Lys Asp Phe Leu Pro Lys Met Glu Asp Gly Thr Leu Gln Ala Gly
          770          775          780
Pro Gly Gly Ala Ser Gly Pro Arg Ala Leu Glu Ile Asn Lys Met Ile
785          790          795          800
Ser Phe Trp Arg Asn Ala His Lys Arg Ile Ser Ser Gln Met Val Val
          805          810          815
Trp Leu Pro Arg Ser Ala Leu Pro Arg Ala Val Ile Arg His Pro Asp

```

3961

<210> 4781  
 <211> 344  
 <212> DNA  
 <213> Homo sapiens

<400> 4781  
 gaaaaagaga aaaccatggt gaacacactg tcaccagag ggcaagatgc agggatggcc  
 60  
 tctggcagga cagaggcaca atcatggaag agccaggaca caaagacgac ccaaggaaat  
 120  
 gggggccaga ccaggaagct gacggcctcc aggacggtgt cagagaagca ccagggcaaa  
 180  
 gcggcaacca cagccaagac gctcattccc aaaagtcagc acagaatgct ggctcccaca  
 240  
 ggagcagttt caacaaggac gagacagaaa ggagtgaacca cagcagtcac cccacctaag  
 300  
 gagaagaaac ctcaggccac cccaccccct gcccttttcc agag  
 344

<210> 4782  
 <211> 109  
 <212> PRT  
 <213> Homo sapiens

<400> 4782  
 Met Val Asn Thr Leu Ser Pro Arg Gly Gln Asp Ala Gly Met Ala Ser  
 1 5 10 15  
 Gly Arg Thr Glu Ala Gln Ser Trp Lys Ser Gln Asp Thr Lys Thr Thr  
 20 25 30  
 Gln Gly Asn Gly Gly Gln Thr Arg Lys Leu Thr Ala Ser Arg Thr Val  
 35 40 45  
 Ser Glu Lys His Gln Gly Lys Ala Ala Thr Thr Ala Lys Thr Leu Ile  
 50 55 60  
 Pro Lys Ser Gln His Arg Met Leu Ala Pro Thr Gly Ala Val Ser Thr  
 65 70 75 80  
 Arg Thr Arg Gln Lys Gly Val Thr Thr Ala Val Ile Pro Pro Lys Glu  
 85 90 95  
 Lys Lys Pro Gln Ala Thr Pro Pro Pro Ala Pro Phe Gln  
 100 105

<210> 4783  
 <211> 1143  
 <212> DNA  
 <213> Homo sapiens

<400> 4783  
 ngctcatcgc tggggtatgc agcgctgaag agcttaacct ccgcagctgc cgccactttc  
 60  
 ggatgtgggc atcgggcacc tggccggcat gacgcgcagc gcggcgaagg gctgcttggg  
 120  
 cctggagcag ctcacgctac aggactgcca gaagctcaca gatctttctc taaagcacat  
 180  
 ctcccagagg ctgacgggcc cgcgctcct ccccccagcg ccgcggaggg gggaggagga  
 240

agatggagac ccacatctca tgcctgttcc cggagctgct ggccatgac ttcggctacc  
 300  
 tggacgtccg ggacaagggg cgcgcggcgc aggtgtgcac cgcctggcgg gacgccgcct  
 360  
 accacaagtc ggtgtggcgg ggggggtggag gccaaagctgc acctgcgccg ggccaaccgg  
 420  
 tcgctgttcc ccagcctgca ggcccggggc atccgccggg tgcagatcct gagecctcgc  
 480  
 cgcagcctca gctacgtgat ccagggcctg gccaaacatcg agagcctcaa cctcagcggc  
 540  
 tgctacaacc tcaccgacaa cgggctgggc cagcgtttg tgcaggagat cggctccctg  
 600  
 cgcgctctca acctgagcct ctgcaagcag atcactgaca gcagcctggg ccgcatagcc  
 660  
 cagtacctca agggcctgga ggtgctggag ctgggagggtt gcagcaacat caccaacact  
 720  
 ggccttctgc tcatcgctg gggctctgcag cgcctcaaga gccttaacct ccgcagctgc  
 780  
 cgccaccttt cggatgtggg catcgggcac ctggccggca tgacgcgcag cgcggcggag  
 840  
 ggctgcctgg gcttgagca gctcacgcta caggactgcc agaagctcac agatctttct  
 900  
 ctaaagcaca tctcccgagg gctgacgggc ctgaggctcc tcaacctcag cttctgtggg  
 960  
 ggaatctcgg acgtggcct cctgcacctg tcgcacatgg gcagcctgcg cagcctcaac  
 1020  
 ctgcgctcct gtgacaacat cagtgcacgc ggcacatgc atctggccat gggcagcctg  
 1080  
 cgcctctcgg ggctggatgt ttcgttctgt gacaagggtg gagaccagag tctggcttac  
 1140  
 ata  
 1143

&lt;210&gt; 4784

&lt;211&gt; 212

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4784

Met	Ala	Asn	Ile	Glu	Ser	Leu	Asn	Leu	Ser	Gly	Cys	Tyr	Asn	Leu	Thr
1				5					10					15	
Asp	Asn	Gly	Leu	Gly	His	Ala	Phe	Val	Gln	Glu	Ile	Gly	Ser	Leu	Arg
		20						25					30		
Ala	Leu	Asn	Leu	Ser	Leu	Cys	Lys	Gln	Ile	Thr	Asp	Ser	Ser	Leu	Gly
		35					40					45			
Arg	Ile	Ala	Gln	Tyr	Leu	Lys	Gly	Leu	Glu	Val	Leu	Glu	Leu	Gly	Gly
	50					55					60				
Cys	Ser	Asn	Ile	Thr	Asn	Thr	Gly	Leu	Leu	Leu	Ile	Ala	Trp	Gly	Leu
65					70				75					80	
Gln	Arg	Leu	Lys	Ser	Leu	Asn	Leu	Arg	Ser	Cys	Arg	His	Leu	Ser	Asp
			85					90					95		
Val	Gly	Ile	Gly	His	Leu	Ala	Gly	Met	Thr	Arg	Ser	Ala	Ala	Glu	Gly
		100						105					110		
Cys	Leu	Gly	Leu	Glu	Gln	Leu	Thr	Leu	Gln	Asp	Cys	Gln	Lys	Leu	Thr

```

      115              120              125
Asp Leu Ser Leu Lys His Ile Ser Arg Gly Leu Thr Gly Leu Arg Leu
      130              135              140
Leu Asn Leu Ser Phe Cys Gly Gly Ile Ser Asp Ala Gly Leu Leu His
145              150              155              160
Leu Ser His Met Gly Ser Leu Arg Ser Leu Asn Leu Arg Ser Cys Asp
      165              170              175
Asn Ile Ser Asp Thr Gly Ile Met His Leu Ala Met Gly Ser Leu Arg
      180              185              190
Leu Ser Gly Leu Asp Val Ser Phe Cys Asp Lys Val Gly Asp Gln Ser
      195              200              205
Leu Ala Tyr Ile
      210

```

&lt;210&gt; 4785

&lt;211&gt; 3289

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4785

```

nntttttttt tcagttttta tttattttta tttgattttt ttttccttaa gaatcatagt
60
aaaccttagc agtagttggg cactgcatga aaaatgaagt ttacatagtt tatattatgt
120
acataaacta gtgattttaca ttgattttaca catgattggg gcctaattta ttaatcagca
180
cgcagcatgt aaatgtgctc aaaagaaatc aagggtttaa ataagttttc cataatatct
240
ataaacattt tcgctgggtg aaatgtttaa cctaaaccca acgttaacac cagcttcctt
300
gccaaagaaa aagtgagatg tacatgctgg gtgaaaacaa attctttcct aaattttggg
360
tggcgacatt tgaacagcat agctacatgc aaatgagaat agtttacttc ttttctgcta
420
gtatgcacat aaatgtaaac tccattttgc atttagtgag atgtttacag atattatgcc
480
aaccatgatg gaaaatttac atcactgagg caaatgcagt ctttgagaaa gaaatattct
540
aaacatttaa gcaaggagga ggcttcctaa actgtatttt tgtttcttat ctcaccattt
600
tttttttcca ggtctgcaga gcattttatc cgtcccagtg gggaggggca gggatccagg
660
tggccggagg gcacagggcc tacgtgtacc acatgaagcc gtggctggca tggagagcct
720
cctctgtggg gcgcagcccg tacagctccc cgatcaaggg gggcacccag cgggttgtgt
780
ggaacacaga ctccccacc ttccagtcgg gcacgtcctt catgatgatg gcctcctcct
840
ccaggttctc ccgaagcatc tgcaagggtc tccgggtcgg ttctgcctgt aacagtggca
900
acagcgcgat gcgagcctcg aagtcctcga tttgtaggcg cctgcgctca cggttccact
960
tcattatgct ccagtgcccg tagatcaggg ttccaatccc tatggccagc atgctgtagc
1020

```



ccgacagtcc tcgacgcggc aagttccgtt ttagtctgat ggggcccata gccccccggc  
1080  
ggaggcatgt cctgcttcac ctttgacgcc ggtcctggcc ttgtctgtgg agacggatta  
1140  
caccttccca cttgctgaaa aggtcaaggc cttcttggct gatccatctg cttttgtgct  
1200  
gctgccccgt tgctgctgcc accacagctg ctgctctgc tgctgcagcc ccagctaagg  
1260  
ttgaagccaa ggaagagtcg gaggagtgg ttgctttttg gtgattagtc aaagagacca  
1320  
aatcccatat cctegtccga ctctccgac tcttccttgg cttcaacctt agctggggct  
1380  
gcagcagcag caggagcagc tgtggtggca gcagccacag gggcagcagc caciaaggca  
1440  
gatggatcag ccaagaaggc cttgacctt tcagcaagtg ggaagggtga atccgtctcc  
1500  
acagacaagg ccaggactcg tttgtacctg ttgatgatag aatgggggtac tgatgcaaca  
1560  
gttgggtagc caatctgcag acagacactg gcaacattgc ggacaccag gatttcaatg  
1620  
gtgccccctg agattttagt ggtgatacct aaagcctgga aaaaggaggt cttctcgggc  
1680  
ccgagaccag tgttctgggc tggcacagtg acttcacatg gggcaatggc accagcacgg  
1740  
gcagcagctg gcaccttatt ggccagcaac atgtccctga tctcagttag gtctccttg  
1800  
gtgaacacaa agcccacatt cccccggata tgaggcagca gtttctccag agctgggttg  
1860  
ttttccaggt gccctcggat ggccttgccg atcatggtgt tcttgcccat cagcacacag  
1920  
ccttcccgcg aagggacatg cggatctgct gcatctgctt ggagcccaca ttgtctgctc  
1980  
cctcaatgaa acatttcgga taatcatcca atagttggat gatcttaagg aagtagttgc  
2040  
tctcgccagg cgtcctcgtg gaagtgcacat cgtctttaa cctgctggtg caatccctga  
2100  
cgaccgccg tgatgccag ggaagacagg gcgacctgga agtccaacta cttccttaag  
2160  
atcatcgtaa gtgcacaact attggatgat tatccgaaat gtttcattgt gggagcagac  
2220  
aatgtgggct ccaagcagat gcagcagatc cgcattgccc ttcgcgggaa ggctgtgggtg  
2280  
ctgatgggca agaaccacat gatgcgcaag gccatccgag ggcacctgga aaacaaccca  
2340  
gctctggaga aactgctgcc tcatatccgg gggaaatgtg gctttgtgtt caccaaggag  
2400  
gacctcactg agatcaggga catgttgctg gccaaataagg tgccagctgc tgcccgtgct  
2460  
gggtgccattg ccccatgtga agtcactgtg ccagcccaga aactgggtct cgggcccag  
2520  
aagacctcct ttttccaggc tttaggtatc accactaaaa tctccagggg caccattgaa  
2580  
atcctgagtg atgtgcagct gatcaagact ggagacaaaag tgggagccag cgaagccacg  
2640

ctgctgaaca tgctcaacat ccccccttc tcctttgggc tggatcatcca gcagggtgttc  
 2700  
 gacaatggca gcatctacaa cctgaagtgt cttgatataca cagaggaaac tctgcattct  
 2760  
 cgcttcctgg aggggtgtccg caatgttgcc agtgtctgtc tgcagattgg ctacccaact  
 2820  
 gttgcatcag tacccttctc tatcatcaac ggggtacaaac gagtcctggc cttgtctgtg  
 2880  
 gagacggatt acaccttccc acttgctgaa aagggtcaagg ccttcttggc tgatccatct  
 2940  
 gcctttgtgg ctgctgcccc tgtgggtgct gccaccacag ctgctcctgc tgcgtgctgt  
 3000  
 gctgcagccc cagctaaggt tgaagccaag gaagagtcgg aggagtcgga cgaggatatg  
 3060  
 ggatttggtc tctttgacta atcaccaaaa agcaaccaac ttagccagtt ttatttgcaa  
 3120  
 aacagacact ggcaacattg cggacaccct ccaggaagcg agaatgcaga gtttcctctg  
 3180  
 tgatatcaag cacttcaggg ttgtagatgc tgccattgtc gaacacctgc tggatgacca  
 3240  
 gcccaaagga gaagggggag atgttgagca tggtcagcag gcgtgcgtt  
 3289

&lt;210&gt; 4786

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4786

Met	Pro	Arg	Glu	Asp	Arg	Ala	Thr	Trp	Lys	Ser	Asn	Tyr	Phe	Leu	Lys
1				5					10					15	
Ile	Ile	Val	Ser	Ala	Gln	Leu	Leu	Asp	Asp	Tyr	Pro	Lys	Cys	Phe	Ile
			20					25					30		
Val	Gly	Ala	Asp	Asn	Val	Gly	Ser	Lys	Gln	Met	Gln	Gln	Ile	Arg	Met
		35				40					45				
Ser	Leu	Arg	Gly	Lys	Ala	Val	Val	Leu	Met	Gly	Lys	Asn	Thr	Met	Met
	50					55					60				
Arg	Lys	Ala	Ile	Arg	Gly	His	Leu	Glu	Asn	Asn	Pro	Ala	Leu	Glu	Lys
65				70					75					80	
Leu	Leu	Pro	His	Ile	Arg	Gly	Asn	Val	Gly	Phe	Val	Phe	Thr	Lys	Glu
			85					90						95	
Asp	Leu	Thr	Glu	Ile	Arg	Asp	Met	Leu	Leu	Ala	Asn	Lys	Val	Pro	Ala
		100						105					110		
Ala	Ala	Arg	Ala	Gly	Ala	Ile	Ala	Pro	Cys	Glu	Val	Thr	Val	Pro	Ala
	115					120					125				
Gln	Asn	Thr	Gly	Leu	Gly	Pro	Glu	Lys	Thr	Ser	Phe	Phe	Gln	Ala	Leu
	130				135					140					
Gly	Ile	Thr	Thr	Lys	Ile	Ser	Arg	Gly	Thr	Ile	Glu	Ile	Leu	Ser	Asp
145				150					155					160	
Val	Gln	Leu	Ile	Lys	Thr	Gly	Asp	Lys	Val	Gly	Ala	Ser	Glu	Ala	Thr
			165					170					175		
Leu	Leu	Asn	Met	Leu	Asn	Ile	Ser	Pro	Phe	Ser	Phe	Gly	Leu	Val	Ile
		180						185					190		
Gln	Gln	Val	Phe	Asp	Asn	Gly	Ser	Ile	Tyr	Asn	Pro	Glu	Val	Leu	Asp

```
<210> 4787
<211> 1258
<212> DNA
<213> Homo sapiens
```

```

<400> 4787
nctagaccct cttctctccc ttcgggtttct ctcttttcggc cggcgccccca gttcctggggg
60
cacaccaga ggtccccctt tcgccgcgcg ctgcaactgc gagggtagcc cggggccgct
120
tggagtcgcc cggacctgag aggctgctgc actgggcctc agccagccct ccggatgctg
180
gtgctgccat cccctgccc tcagcctctg gcattttcct ccgttgagac catggagggc
240
ctccccgtc ggacttgccg ctccccagaa cctggacctt cctcctccat cggatctccc
300
caggttcat ctctccaag gcccaaccac tacctgctta ttgacactca ggggtgtccc
360
tacacagtgc tgggtggacga ggagtcacag agggagccag gggccagtgg ggctccaggc
420
cagaaaaagt gctacagctg ccccgctgtc tcaaggggtct tcgagtagat gtcctacctt
480
cagcgacaca gcatcaccca ctcgagggta aagcccttcg agtgtgacat ctgtgggaag
540
gcattcaagc gcgccagcca cttggcacgg caccattcca ttcacctggc ggggtggggg
600
cggccccacg gctgcccgtc ctgccctcgc cgcttcggg atgcgggtga gctggcccag
660
cacagccggg tgcactctgg ggaacgccc tttcagtgtc cacactgcc tcgccgcttt
720
atggagcaga acacactgca gaaacacacg cgggtggaagc atccatgagc cgggctgccg
780
ggtgccccag gtaccacagg actttgcagg gagcctggac tcctgtccag acacctgggtg
840
agagcctgag gctgggtgtc agggccctgg acacagacac agagcagccg catctcaaag
900

```

gcagagccct gcctgaagga ggaatccgtg agtaatcttc aggtcctccg tgttctggag  
 960  
 ctgagatggg aatgagcccc tacacagaat ggagtcctct agcctaaaga tatcagctgt  
 1020  
 tccatggcag agccttgact ggatggaggt ggggagtgtg gtgtgtaaag tctctggcct  
 1080  
 cataaaaggt ggctgtgggt cgtcaggaat ctgcgccatc ttctggggc ttctgcgctg  
 1140  
 ttgttgggga agggacccca gtctgcctt ccacccccca accaggcctg agactgatca  
 1200  
 aacaataaac acgtttccca ctctgaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa  
 1258

<210> 4788

<211> 197

<212> PRT

<213> Homo sapiens

<400> 4788

Met	Leu	Val	Leu	Pro	Ser	Pro	Cys	Pro	Gln	Pro	Leu	Ala	Phe	Ser	Ser	1	5	10	15
Val	Glu	Thr	Met	Glu	Gly	Pro	Pro	Arg	Arg	Thr	Cys	Arg	Ser	Pro	Glu	20	25	30	
Pro	Gly	Pro	Ser	Ser	Ser	Ile	Gly	Ser	Pro	Gln	Ala	Ser	Ser	Pro	Pro	35	40	45	
Arg	Pro	Asn	His	Tyr	Leu	Leu	Ile	Asp	Thr	Gln	Gly	Val	Pro	Tyr	Thr	50	55	60	
Val	Leu	Val	Asp	Glu	Glu	Ser	Gln	Arg	Glu	Pro	Gly	Ala	Ser	Gly	Ala	65	70	75	80
Pro	Gly	Gln	Lys	Lys	Cys	Tyr	Ser	Cys	Pro	Val	Cys	Ser	Arg	Val	Phe	85	90	95	
Glu	Tyr	Met	Ser	Tyr	Leu	Gln	Arg	His	Ser	Ile	Thr	His	Ser	Glu	Val	100	105	110	
Lys	Pro	Phe	Glu	Cys	Asp	Ile	Cys	Gly	Lys	Ala	Phe	Lys	Arg	Ala	Ser	115	120	125	
His	Leu	Ala	Arg	His	His	Ser	Ile	His	Leu	Ala	Gly	Gly	Gly	Arg	Pro	130	135	140	
His	Gly	Cys	Pro	Leu	Cys	Pro	Arg	Arg	Phe	Arg	Asp	Ala	Gly	Glu	Leu	145	150	155	160
Ala	Gln	His	Ser	Arg	Val	His	Ser	Gly	Glu	Arg	Pro	Phe	Gln	Cys	Pro	165	170	175	
His	Cys	Pro	Arg	Arg	Phe	Met	Glu	Gln	Asn	Thr	Leu	Gln	Lys	His	Thr	180	185	190	
Arg	Trp	Lys	His	Pro												195			

<210> 4789

<211> 1515

<212> DNA

<213> Homo sapiens

<400> 4789

nnggttctgc aagccacaca tggcctcact gcatgttttt cttctttttt aacaatcctt  
 60

ttaaaaaatg tagaaaccct tttcagttca aaggccacac caaagcaggt caggtagatc  
120  
tggtccacag gccatagata gccaatccct gtcccagagg gtggagctgt gagacttgtc  
180  
ggggtgagac ctggttagagg ctggatgggg caattgcttg gggaatgtgt gcagatgttc  
240  
tctgcctect gctccttcta gatgattttt ggcgacctga tgcgattctg ctggctgatg  
300  
gctgtggtca tcctgggctt tgcttcagcc ttctatatca tcttccagac agaggacccc  
360  
gaggagctag gccacttcta cgactacccc atggccctgt tcagcacctt cgagctgttc  
420  
cttaccatca tcgatggccc agccaactac aacgtggacc tgcccttcat gtacagcatc  
480  
acctatgctg cctttgccat catcgccaca ctgctcatgc tcaacctcct cattgccatg  
540  
atgggcgaca ctcaactggcg agtggcccat gagcgggatg agctgtggag ggcccagatt  
600  
gtggccacca cggatgatgct ggagcggaaag ctgcctcgtc gcctgtggcc tcgctccggg  
660  
atctcgggac gggagtatgg cctgggagac cgctgggttc tgcggttgga agacaggcaa  
720  
gatctcaacc ggcagcggat ccaacgctac gcacaggcct tccacacccg gggctctgag  
780  
gatttgagaca aagactcagt ggaaaaacta gagctgggct gtcccttcag ccccccactg  
840  
tcccttecta tgccctcagt gtctcgaagt acctcccgca gcagtgccaa ttgggaaagg  
900  
cttcggcaag ggaccctgag gagagacctg cgtgggataa tcaacagggg tctggaggac  
960  
ggggagagct gggaatatca gatctgactg cgtgtttctca cttcgcttcc tggaaacttg  
1020  
tctcattttc ctgggtgcat caaacaaaac aaaaaccaa caccagagg tctcatctcc  
1080  
caggccccag gggagaaaga ggagtagcat gaacgccaag gaatgtacgt tgagaatcac  
1140  
tgctccaggc ctgcattact ccttcagctc tggggcagag gaagcccagc ccaagcacgg  
1200  
ggctggcagg gcgtgaggaa ctctcctgtg gcctgctcat cacccttccg acaggagcac  
1260  
tgcattgtcag agcactttta aaacaggcca gcctgcttgg gcgctcggtc tccaccccag  
1320  
ggtcataagt ggggagagag cccttcccag ggcacccagg caggtgcagg gaagtgcaga  
1380  
gcttgtggaa agcgtgtgag tgagggagac aggaacggct ctgggggtgg gaagtggggc  
1440  
taggtcttgc caactccatc ttcaataaag tcgttttcgg atccctaaaa aaaaaaaaaa  
1500  
aaaaaaaaaa aaccc  
1515

&lt;210&gt; 4790

&lt;211&gt; 241

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4790

```

Met Ile Phe Gly Asp Leu Met Arg Phe Cys Trp Leu Met Ala Val Val
 1           5           10           15
Ile Leu Gly Phe Ala Ser Ala Phe Tyr Ile Ile Phe Gln Thr Glu Asp
      20           25           30
Pro Glu Glu Leu Gly His Phe Tyr Asp Tyr Pro Met Ala Leu Phe Ser
      35           40           45
Thr Phe Glu Leu Phe Leu Thr Ile Ile Asp Gly Pro Ala Asn Tyr Asn
      50           55           60
Val Asp Leu Pro Phe Met Tyr Ser Ile Thr Tyr Ala Ala Phe Ala Ile
      65           70           75           80
Ile Ala Thr Leu Leu Met Leu Asn Leu Leu Ile Ala Met Met Gly Asp
      85           90           95
Thr His Trp Arg Val Ala His Glu Arg Asp Glu Leu Trp Arg Ala Gln
      100          105          110
Ile Val Ala Thr Thr Val Met Leu Glu Arg Lys Leu Pro Arg Cys Leu
      115          120          125
Trp Pro Arg Ser Gly Ile Cys Gly Arg Glu Tyr Gly Leu Gly Asp Arg
      130          135          140
Trp Phe Leu Arg Val Glu Asp Arg Gln Asp Leu Asn Arg Gln Arg Ile
      145          150          155          160
Gln Arg Tyr Ala Gln Ala Phe His Thr Arg Gly Ser Glu Asp Leu Asp
      165          170          175
Lys Asp Ser Val Glu Lys Leu Glu Leu Gly Cys Pro Phe Ser Pro His
      180          185          190
Leu Ser Leu Pro Met Pro Ser Val Ser Arg Ser Thr Ser Arg Ser Ser
      195          200          205
Ala Asn Trp Glu Arg Leu Arg Gln Gly Thr Leu Arg Arg Asp Leu Arg
      210          215          220
Gly Ile Ile Asn Arg Gly Leu Glu Asp Gly Glu Ser Trp Glu Tyr Gln
      225          230          235          240
Ile

```

&lt;210&gt; 4791

&lt;211&gt; 4481

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4791

```

nntgtacact aaccatgata ctgttacaaa agcagacact taagccaatg gaacagaata
60
gaacactcaa aaataaagct gcacacttac caccatctga tcgtggacaa ggccaacaaa
120
aacaacaat ggggaaaagg caccctattc aataaatggt gctgggataa ttcgctagcc
180
atatgcagaa tagtgaaact ggaccctat ccttcacgat atacaaaaat caactcaaga
240
tggaataaag acttaaatat aaacctaata agtattaaat tcctagaaga caaccagga
300
aatgccattc tggacataag tgctggaaaa gacttaatga tgaacaccnc caaagcaatt
360

```

acaacaaaaa caaaaattga caagtgggac ctaattaaac taaataactt ctgcacagca  
420  
aaagaaacta tcaacagagt agacagacaa cctacagaat gggagaaagt actggcatgg  
480  
gagaaaatat tttaaacta tgcattctgac aaaggtctaa tatccagcat ctataaggaa  
540  
cttaaacaaa ttactaggg aaaaacagac aatcccatata aaaagtgggc aaaggacatg  
600  
aacagacact tctcaaaaga agacatacaa gcaatcaaca aanncgtagaa aaaatgctca  
660  
tcactaatca tcagagaaat gcaaatcaaa accacaataa tataccatct cacaccagtc  
720  
agtatgggta ttacaaaaa gtcaaaaatt acacaatatg aaaagtcact atattatgcc  
780  
agttttttgg aagtcttagt tcgagatgtg tgtatttcat tggaaattga tgacttgaaa  
840  
aaaattacca attcactgac tgtgctttgc agtgaaaaac agaagcaaga aaagcaaagc  
900  
aaagccaaaa agaagaagaa aggtgtgggt cctggagggg gattaaaagc caccatgaaa  
960  
gatgatctgg cagattatgg tgggtatgat ggaggatatg tacaagacta tgaagacttc  
1020  
atgtgacatt ttatcttttc ttggtgtcat ctttatgttg ccacaaatcc cttgaacatg  
1080  
tagcacaact tcctttcctt tcagttctgc caaatgctac aatcagaagt gcagtatctt  
1140  
ttgtgctggg tatttaaccc cttgacactt aggtgctaata gtgcaaatga gggaaacttg  
1200  
atcttgctgc caaggggtta aaattgggaa cctaagttgc tactaaatca tagttcaaaa  
1260  
cctaataatg ttgtcgttgt tgctatctga ttcatagca gcagtcacta aattggaaac  
1320  
aaaaggttgc aacgtgacaa aaaaaattgt gtagtattta ccagcaccat tcagtaatac  
1380  
agccttaacc atacctcctt gaactacttc ataacttgct aagaaaagca gtttgagca  
1440  
agggcattgt gtgtgcacct agtattaaaa ttgctttgtc ttaaaattga acatgaggat  
1500  
attaaaaata cattgtgaag aagactgctt atctcagagt gaagatactg cggctgaaaa  
1560  
gcactagttt gatataaaat taaaatgacc aaaaccctcc aactttgaag ctaaagaagg  
1620  
taaacccttc cattattgca ttacatgttg tggaatctct cgagtgcata gactgtctag  
1680  
ttatttatca ggctatttct actgatgaac tgcttcaggt gggggaggga aacttatttt  
1740  
tatttgctg atttaagtgt ctgagaaaca aatctttgtt ctcttaggct gcaatggaac  
1800  
aactttacca gggttttggc atttcctttc ctttccttta taaaacatgc tcagcaaaact  
1860  
gcaccagtta actacagttt ggtaaattgt tatgttaaca attatgacat ctgcaatgtt  
1920  
ttataaagca actaatttaa taaaatcact gttgtgagga cttaaatttt gtgttacctc  
1980

ccaagagata ctttttgaga gtatagaaca cagctcttgg gagtacagtt ctctacgttc  
2040  
tctactaaat cttaataaat gcttgacata gttacagctt taaaacatga gtgatttgcc  
2100  
aggtccttat gttgtcacca tagagcaaca aaggatatagg gctgccttcc tcttatttat  
2160  
ttggggacat tattttgtta tttagatacc aaggcctaata taattaagta cctataagaa  
2220  
ctatttattt ggagtaactg agcctgtaac tcagggttat ggctgttaag tatagattgg  
2280  
ggaatcttta ttatgtcttc tcctaagcag tttaaccaa tgtgtgggta gtgttttttt  
2340  
attcccctaa gacagaaaga acaaaaaatg ttttaaatct ctcttatata ggaaataata  
2400  
ggaacgtcaa agctctgtat acctactaag tggaaaacaa gaccatcatc taagtgttt  
2460  
gagaaattaa caaaagtagt gactacacag caataattac agtaaattaa ataaagattc  
2520  
ctttaaggca gacaagggtc aagatttcct tagcagtaat aatgacatac actgaattga  
2580  
aatctattt tattacagaa agatcagttt ctaacaaatg aaaatgtatc acctgttctc  
2640  
taactgtgta aataataatt aaatttcttt gaaactggaa tctgcaggta cagggtattc  
2700  
ttaatcatta ttggatcatc taaagtagaa gctgtcctga ggaagaggaa gcttttgatc  
2760  
ttaatactag tatctatata aaatgggtgtg gatgaacaat catctaaaat caatctattt  
2820  
taaataaggaa tttcctcctg aaaagtttct tacttgctac ctactacca caaaggactg  
2880  
atatggtaca gtaccgggat tgttcaactt tagcaaagat ctccaatgca ttcttcttct  
2940  
catcacatct gtcagaatct gctaacagta caagaaaaca gacacctatg aaatcatcta  
3000  
acctgctagc atgtccttta gacagcaacc tgtctgaggg tccttcagaa gcacatttac  
3060  
aatttcataa aacttggtgtt cgtatgccaa cttgtaatac aggtaaacad cttcacaata  
3120  
tgtgagtaat ttcttcaggt tttccatgac catgtcagta ggctgatgtt gtttatattt  
3180  
tttggaaatc tcttcaaata tactggactt taataacctt tgctgcttaa attcttccaa  
3240  
gtaattaaag tctcctttaa gaatcacttg ctggtacaaa atttcagccc aatctggaac  
3300  
aaaatcgtag gccctcagcc acaatagaag cctggtagaa ccgaggtagg gccagaatac  
3360  
agtccatcag cttgtggcgg cccaagttga tgagcattgt gttctggcca gtgttcagaa  
3420  
agtgaatctg cagagttatc aacttggtga gccgctgaca gtgctgggcc tgtcgcacac  
3480  
aggagtcctt ggcataactc tctgctgcat ccaacatcag agtcagggcc ttcagcagca  
3540  
gttgtttcag ctggtgcccc tccttgaggg tgtcctccca gggctgagac tcaatcaatt  
3600



tcagttggat gcgggcagct gcctcgtggt tctcgccaat ctcccggcac atgctgaagc  
 3660  
 acagggcaat catattgtgc ttttactgt ctccaggacg gcagcgtttg atgtagtcca  
 3720  
 gcagggctgt tttcagggtta ccactcggat ccaacttctt cctcattagc acttcaaagt  
 3780  
 agtgcttttt atgcagcaaa tcaaatatgt atgtcatctc gttgtacctt ccaatgccag  
 3840  
 tgaggagccg taccaccagc ccatactcct cactgggggc caggtggtta tctgtgagca  
 3900  
 tgtgggcggc ctgtaggact cggatgatgc cctccatgtg gcacgtcagg gtgaagcaat  
 3960  
 gatgggccag gatcaggagc tctgtggtgc aagacagttc cccatgggga acggaggaaa  
 4020  
 tcttatccaa caacttcatt cctaccaatg tgcggtcttg acacagagtg gtcagctgaa  
 4080  
 gaaatgtctg gctttcctct gttgggttga acatctgctt atgtcctgtt cctgtgatg  
 4140  
 aagtaagcag ctcccgtgtc acctcttctg ccacgagttc agccacagta tctggcttaa  
 4200  
 ggcctgtgt gctgatgaag gcctgggctc gtttgcacg gtcaggctgc tgagaggcca  
 4260  
 agattttccg gagcatggct tcaccatcct gagcagcaac atctgtgtag gaacagccca  
 4320  
 actccttggc aagatcatac agacagagga cctgtcgaca gtagttcttc ccatggaggc  
 4380  
 atttgcttgt cagcacttcc aggttagtta ccacttcatt actggtgaag cacgtatggg  
 4440  
 ccaggatcag gagctctgtg gtgcaagaaa gttcccatg g  
 4481

&lt;210&gt; 4792

&lt;211&gt; 179

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4792

Tyr	Cys	Tyr	Lys	Ser	Arg	His	Leu	Ser	Gln	Trp	Asn	Arg	Ile	Glu	His
1				5					10					15	
Ser	Lys	Ile	Lys	Leu	His	Thr	Tyr	His	His	Leu	Ile	Val	Asp	Lys	Ala
			20					25					30		
Asn	Lys	Asn	Lys	Gln	Trp	Gly	Lys	Gly	Thr	Leu	Phe	Asn	Lys	Trp	Cys
		35					40					45			
Trp	Asp	Asn	Ser	Leu	Ala	Ile	Cys	Arg	Ile	Val	Lys	Leu	Asp	Pro	Tyr
	50					55					60				
Pro	Ser	Arg	Tyr	Thr	Lys	Ile	Asn	Ser	Arg	Trp	Ile	Lys	Asp	Leu	Asn
65					70				75					80	
Ile	Lys	Pro	Lys	Ser	Ile	Lys	Phe	Leu	Glu	Asp	Asn	Pro	Gly	Asn	Ala
			85					90					95		
Ile	Leu	Asp	Ile	Ser	Ala	Gly	Lys	Asp	Leu	Met	Met	Asn	Thr	Xaa	Lys
		100					105						110		
Ala	Ile	Thr	Lys	Thr	Lys	Ile	Asp	Lys	Trp	Asp	Leu	Ile	Lys	Leu	
		115				120					125				
Asn	Asn	Phe	Cys	Thr	Ala	Lys	Glu	Thr	Ile	Asn	Arg	Val	Asp	Arg	Gln

```

<400> 4793
caattgcaat taaacatgga cagaaaatcc tctctcccgt tgttcttaga acaagaataa
60
caatgaagtt aaaagccacc tggaagggcc cctcctcacc cttggtctct caaattccat
120
tttttagtcc tcttgaaggc ccacagcacc actgctgtca gccagcctct tggcagggtg
180
ataggtgact tcatttggtg ccaacaacac agatgctttc caacatcata acaacctcac
240
agatgccctt tttaatatct gcgtatgtta cgttatagag ctgtaccatg agttagtgtc
300
tattttcgtc catttacatt gctataaagg attacctgag gctgggtaat taaagagggt
360
tacttggtc acggctctgc aggctgtaca agcagcacgg tgccagcgtc tgcttctggt
420
gagggcctca ggctacttcc agcatggcag aaggcgaagg agagctagcg tgtgcagaga
480
tcacatggca acagaggaag aaggcagagg tgctctttaa caaccagttc ttccgagaga
540
gttccacgtg gctggaactt cacaatcatg gcagaaggca cgtctgcgag gcatcctggg
600
gctgcaactg tgatcctctt ctctctcccc tggccctgag tgctgecttc atgtgggtca
660
gcccttcctg ccttcaagcc ttcacagct tcagggcagc cccgagctctg tgcccaggta
720
cactggctaa aatgcagtggt cttccaaata gccatatctc attttaatca gggagcaatt
780
ccagcatgga agtccccatc atgctcctgc tggcaggtac aggtgccagt ttgtgacgga
840
tgaaagcacc gacagcccac gcgtcttcat catggaggcc tgtgccccag actgtgcccc
900
gcacaacagc tgggoggcaa ggggtgggcca gggctgagca aatgacacgt tccctttggc
960
taaggaagac accccagaag caaaatgctc catgcaacag ccaggcattc aggctacaag
1020
ctcggtggtg gggaggcagc cgggagcctt ctcagaggag aagggtcccg tgatcattcc
1080
acagatgctt ttagagctct gggctcaggg taaccgacca attatggtgc tgccagaggg
1140
cctgcattta ctatacacac gtcacaaaat caggcttccc cgggaggagc catcggactc
1200

```

tgtgcagagg gccatgtga caatataaaa ggtcgacgcg gc  
1242

<210> 4794  
<211> 118  
<212> PRT  
<213> Homo sapiens

<400> 4794  
Met Glu Ala Cys Ala Pro Asp Cys Ala Gln His Asn Ser Trp Ala Ala  
1 5 10 15  
Arg Val Gly Gln Gly Arg Ala Asn Asp Thr Phe Pro Leu Ala Lys Glu  
20 25 30  
Asp Thr Pro Glu Ala Lys Cys Ser Met Gln Gln Pro Gly Ile Gln Ala  
35 40 45  
Thr Ser Ser Val Ala Gly Arg Gln Pro Gly Ala Phe Ser Glu Glu Lys  
50 55 60  
Gly Pro Val Ile Ile Pro Gln Met Leu Leu Glu Leu Trp Ala Gln Gly  
65 70 75 80  
Asn Arg Pro Ile Met Val Leu Pro Glu Gly Leu His Leu Leu Tyr Thr  
85 90 95  
Arg His Lys Ile Arg Leu Pro Arg Glu Glu Pro Ser Asp Ser Val Gln  
100 105 110  
Arg Ala His Val Thr Ile  
115

<210> 4795  
<211> 2117  
<212> DNA  
<213> Homo sapiens

<400> 4795  
nnattgtttt cctgatttca ttaagttgtc tatttatatt cctttatatc tcaactgagtc  
60  
tccttaagat cattatgtgg aattctcttt cagaaaactc atacattttc atttatttgg  
120  
ggtcagttag cagagaatta ttgttttccc ttggtagtat cacttttctt tgctttttct  
180  
tatttcttgt gtccctgcat aggtgtctcc acatctggtg gtataatcgg ctctctcaaa  
240  
ctttatagag tggttttcag aggggaagat tttcatctgc agatgggcct ggggcttttg  
300  
gttgagcagg ctctggtggc tttcatttca tgtgggtcca ggccctccgg cagcagtga  
360  
ttgagagccc aggctgcac ggcccacagt gcaggggtcc ccgggctctc catccccact  
420  
tccagttggc taccctgat gaaggggcca cctgaggtgg ctcagagtaa tatccagacc  
480  
cagccagtga acagggagat ggatgctgcc ggctttgact tctcactgcc atgcactcaa  
540  
aagctaacac agaatggcac aaggagtcag tggggcctct ccctgccagc tctcatgacc  
600  
gagggcagtg taaaacatgg tttaggagat gtttctatcc tcaagaagac attcagcacc  
660

aggcttcaga actcagattg gtttctcacc actttgaaag actgcatgac tcttcaccca  
 720  
 ctagaggcat cacctcccca ggacaaacag ccctccatca tgaaggacca acattgcatg  
 780  
 aactgggtgct tggccccacc agagggaaat gcaaacgtgg catttagccc atatggcttt  
 840  
 cttgcatggg gtcactacat cagtgccatg gaccctgca ccctcttacc cttggcgggt  
 900  
 ccacatgccc agggccccca ggggtgtggc ccaaaagtga caaccagagg attgggacca  
 960  
 gcaggagcat cactgtggac agtctatgag gacagtaaga gacagggcct gtccctggag  
 1020  
 attgtacagg gcttgcaagg acaggctggc cctgagagca tcagccctgt cgtgactgta  
 1080  
 ccccaaagag gcatcaggcc ctttgggaag ttggacagga acaccagaat ggccagcctt  
 1140  
 gactgcaagt ccctggagtg gcagcccctg gcaatacttc tggaacagaa aaacatggca  
 1200  
 gcagacgggc ccgtgctcaa ttcaccagag cccaagccag cccaaggcag ctgcttcctg  
 1260  
 ctacagagag tcgcttcaga agtgctttgt gctacagtcc ctgcccgtgg catccagggc  
 1320  
 tggccagagc ccaagccctc ccagggtca gagctctcag ccctcaaagc acacgaagtc  
 1380  
 ttacaaatca tgctgggctt acccactgag gacatgctgg tgagaaagca ggcaccacag  
 1440  
 cccctgttcc ttctgatgg tcatgtgcag ctgtgctcca aaggacagca gaggttggaa  
 1500  
 cagagggcgt gtcggaggag atccagggaac aacactcaac agaggaacac tgatatgtct  
 1560  
 ccatatcccc agcgcccagc ccagggcctg gtgtggagca gagcagaccc caccacgggt  
 1620  
 acagacagcg atgcagacat aacactacaa gcatatccat caggagtcaa gtcatggggc  
 1680  
 tgtccccagg aaatcagctc attagtgtgg ctgaccaagg ccatgctggc ccttagaggt  
 1740  
 ggctgctcca gtcacagcag cgactctatg ggcaggaaag cctgggttct gttcaaccca  
 1800  
 cagcagacca cactcagggt ggccctgtaa gtgagccctt tcttccaaaa tggccactgg  
 1860  
 atccaatttc tctcactggg aatcaaggca gcattggtag gtaacaaatg tgtgaacaga  
 1920  
 caaaccagct tctgagtaga atcctattac ataaaacctg acaagctgca gagggcatct  
 1980  
 ggtcacccat gtagttctat cagtgggcaa atccaagcac tctggagagg gacaagtact  
 2040  
 tgcctaata ga ctgcaagact cccaaccag cactgtatcc aagcacacac cacaaccatg  
 2100  
 tcctcccaga ctctgg  
 2117

&lt;210&gt; 4796

&lt;211&gt; 541

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4796

```

Val Ser Thr Ser Gly Gly Ile Ile Gly Ser Leu Lys Leu Tyr Arg Val
 1          5          10          15
Ala Phe Arg Gly Glu Asp Phe His Leu Gln Met Gly Leu Gly Leu Leu
 20          25          30
Val Glu Gln Ala Leu Val Ala Phe Ile Ser Cys Gly Ser Arg Pro Ser
 35          40          45
Gly Ser Ser Glu Leu Arg Ala Gln Ala Cys Thr Ala His Ser Ala Gly
 50          55          60
Val Pro Gly Leu Ser Ile Pro Thr Ser Ser Trp Leu Pro Leu Met Lys
 65          70          75          80
Gly Pro Pro Glu Val Ala Gln Ser Asn Ile Gln Thr Gln Pro Val Asn
 85          90          95
Arg Glu Met Asp Ala Ala Gly Phe Asp Phe Ser Leu Pro Cys Thr Gln
100          105          110
Lys Leu Thr Gln Asn Gly Thr Arg Ser Gln Trp Gly Leu Ser Leu Pro
115          120          125
Ala Leu Met Thr Glu Gly Ser Val Lys His Gly Leu Gly Asp Val Ser
130          135          140
Ile Leu Lys Lys Thr Phe Ser Thr Arg Leu Gln Asn Ser Asp Trp Phe
145          150          155          160
Leu Thr Thr Leu Lys Asp Cys Met Thr Leu His Pro Leu Glu Ala Ser
165          170          175
Pro Pro Gln Asp Lys Gln Pro Ser Ile Met Lys Asp Gln His Cys Met
180          185          190
Asn Trp Cys Leu Ala Pro Pro Glu Gly Asn Ala Asn Val Ala Phe Ser
195          200          205
Pro Tyr Gly Phe Leu Ala Trp Gly His Tyr Ile Ser Ala Met Asp Pro
210          215          220
Cys Thr Leu Leu Pro Leu Ala Gly Pro His Ala Gln Ala Pro Gln Gly
225          230          235          240
Val Ala Pro Lys Val Thr Thr Arg Gly Leu Gly Pro Ala Gly Ala Ser
245          250          255
Leu Trp Thr Val Tyr Glu Asp Ser Lys Arg Gln Gly Leu Ser Leu Glu
260          265          270
Ile Val Gln Gly Leu Gln Gly Gln Ala Gly Pro Glu Ser Ile Ser Pro
275          280          285
Val Val Thr Val Pro Gln Arg Gly Ile Arg Pro Phe Gly Lys Leu Asp
290          295          300
Arg Asn Thr Arg Met Ala Ser Leu Asp Cys Lys Ser Leu Glu Trp Gln
305          310          315          320
Pro Leu Ala Ile Leu Leu Glu Gln Lys Asn Met Ala Ala Asp Gly Pro
325          330          335
Val Leu Asn Ser Pro Glu Pro Lys Pro Ala Gln Gly Ser Cys Phe Leu
340          345          350
Leu Gln Arg Val Ala Ser Glu Val Leu Cys Ala Thr Val Pro Ala Arg
355          360          365
Gly Ile Gln Gly Trp Pro Glu Pro Lys Pro Ser Pro Gly Ser Glu Leu
370          375          380
Ser Ala Leu Lys Ala His Glu Val Leu Gln Ile Met Leu Gly Leu Pro
385          390          395          400
Thr Glu Asp Met Leu Val Arg Lys Gln Ala Pro Gln Pro Leu Phe Leu

```

```

<400> 4797
ncttccctcc ttccttccgc cgcaacatgg ctaacaacag ccccgcgctg acaggcaact
60
cgcagccgca gcaccaggcg gctgcagctg cggctcagca acagcagcag tgcggcgggc
120
gcggcgctac caagccggcg gtctccggca agcagggcaa tgtgctcccg ctctggggca
180
acgagaagac catgaacctc aaccccatga tcctgaccaa catcctgtcg tcgccttact
240
tcaaagtaca gctctacgag ctcaagacct accacgaggt ggtggacgag atctacttta
300
aggtcacgca cgttgaacca tgggagaaaag gaagcaggaa aacagcgggc cagacagggg
360
tgtgcggagg ggtaagtaga agttcgaggt gttggaacag gaggaattgt ttctacagca
420
ttttgcctgt tatacaaatt atttaccctg aagttaactc gaaagcaagt gatgggtctt
480
ataacacaca cagactctcc atatattaga gcgcttggat ttatgtatat aagatataca
540
cagcccccta cagatctgtg ggactggttt gaatccttcc ttgatgatga agaggactta
600
gatgtgaagg ctggtggagg ctgtgtaatg accattggag aaatgctacg atcttttctc
660
acaaaactgg agtggttttc taccttgttt ccaagaattc cagttccagt tcaaaagaat
720
attgatcaac agattaaaac ccgacctaga aaaatcaaga aagatgggaa ggaaggtgct
780
gaggaaatag acagacatgt tgaacgcaga cgttcaaggt ctccaaggag atctctgagt
840
ccacggagggt cccaagaag gtcaagaagt agaagtcatc atcgggaggg ccatgggtct
900

```

tctagttttg acagagaatt agaaagagag aaagaacgcc agcgactaga gcgtagaacc  
960  
aaagaaaggg agaaagaacg gcgaagatcc cgaagtattg accggggggtt agaacgcagg  
1020  
cgcagcagaa gtagggaaag gcatagaagt cgcagtcgaa gtcgtgatag gaaaggggat  
1080  
agaagggaca gggatcgaga aagagagaaa gaaaatgaga gaggtagaag acgagatcgt  
1140  
gactatgata aggaaagagg aaatgaacga gaaaaagaga gagagcgatc aagagaaagg  
1200  
tccaaggaac agagaagtag gggagaggta gaagagaaga aacataaaga agacaaagat  
1260  
gataggcggc acagagatga caaaagagat tccaagaaag agaaaaaaca cagtagaagg  
1320  
agaagcagag aaaggaaaca cagaagtagg agtcgaagta gaaatgcagg gaaacgaagt  
1380  
agaagtagaa gcaaagagaa atcaagtaaa cataaaaaatg aaagtaaaga aaaatcaaat  
1440  
aaacgaagtc gaagtggcag tcaaggaaga actgacagtg ttgaaaaatc aaaaaaacgg  
1500  
gaacatagtc ccagcaaaga aaaatctaga aagcgtagta gaagcaaaga acgttcccac  
1560  
aaacgagatc acagtgatag taaggaccag tcagacaaac atgatcgtcg aaggagccaa  
1620  
agtatagaac aagagagcca agaaaaacag cataaaaaaca aagatgagac tgtgtgaaaa  
1680  
tattttgtaa aagtggatca cattgaatcc tataaatgat taaatctgct tttttccccc  
1740  
acgttgagat tgtgcagtag ttgcactcc tcaagctctc cctgtaggct gcattttcat  
1800  
ttcctctttc gtgtagggaa gtgcctttgt aattccattt attgcattgg tgttttcacc  
1860  
caattgttaa gtttgatata tgatgcacag attgttcttg catttttatt gtttgttttt  
1920  
gaaatgtaca gtctgtacat atgtcctgaa aatgttttaa ttcctttggc atggttgcca  
1980  
tggttggttaa atttgtataa ggcaataaac tgccactaat ctatttttgt tttgtaggtg  
2040  
tgggattatg gtttgtgtac tgaagttagc atggctgtgc ttttcgtaat agaatgctaa  
2100  
agactttgag aatggatctt ggatgtctat tataggagaa gtatgtgctg ccaatgtaca  
2160  
agaaggcagc attgtaggat taacattctt gtctactgta tattatcttg gaaggctctt  
2220  
gttaatatgt tacacttaat attctccaca gttaccttta gagagaattt atgagaagtt  
2280  
agtttctgat gcagaggttt ttaggctgtg atttcatcaa aagtcctttt agcattctac  
2340  
ctcaaagggg cacttagtat gcctaaaatt tattcactta gttttccttt tttatttgaa  
2400  
aaaatacatg acatgtaatc tttttttctt gaattctttc tcagatttta aagtactata  
2460  
ttaagaaaaa aaattaatgt ctaaagccta gcattcttgc agaaccctat actaacatgt  
2520

aatggggaga ggggtggggca gatgagtaga gaaacagatt caagcctcaa gcttccaaag  
 2580  
 catttttata aatggaaaat ccttaaatta tgaaacagct tgatatagtg tccttttttt  
 2640  
 aaaattcaga acttttttta ttgataatgg agattgctgt ttgagttttt aaacttaatc  
 2700  
 tagaacagag gagtattaaa agtaatgctg tgctgcatta ttttaagacta tcagcaaatt  
 2760  
 atttgataga ttgttcttac aacttgatt ctgattacag aaccatcatg agtgtggaat  
 2820  
 aaatactgga ttaaatcctt taaaaaaa  
 2848

<210> 4798

<211> 401

<212> PRT

<213> Homo sapiens

<400> 4798

Met	Gly	Leu	Ile	Thr	His	Thr	Asp	Ser	Pro	Tyr	Ile	Arg	Ala	Leu	Gly
1				5					10					15	
Phe	Met	Tyr	Ile	Arg	Tyr	Thr	Gln	Pro	Pro	Thr	Asp	Leu	Trp	Asp	Trp
			20					25				30			
Phe	Glu	Ser	Phe	Leu	Asp	Asp	Glu	Glu	Asp	Leu	Asp	Val	Lys	Ala	Gly
		35					40					45			
Gly	Gly	Cys	Val	Met	Thr	Ile	Gly	Glu	Met	Leu	Arg	Ser	Phe	Leu	Thr
	50					55					60				
Lys	Leu	Glu	Trp	Phe	Ser	Thr	Leu	Phe	Pro	Arg	Ile	Pro	Val	Pro	Val
65					70					75				80	
Gln	Lys	Asn	Ile	Asp	Gln	Gln	Ile	Lys	Thr	Arg	Pro	Arg	Lys	Ile	Lys
			85					90					95		
Lys	Asp	Gly	Lys	Glu	Gly	Ala	Glu	Glu	Ile	Asp	Arg	His	Val	Glu	Arg
			100					105					110		
Arg	Arg	Ser	Arg	Ser	Pro	Arg	Arg	Ser	Leu	Ser	Pro	Arg	Arg	Ser	Pro
		115					120					125			
Arg	Arg	Ser	Arg	Ser	Arg	Ser	His	His	Arg	Glu	Gly	His	Gly	Ser	Ser
		130				135					140				
Ser	Phe	Asp	Arg	Glu	Leu	Glu	Arg	Glu	Lys	Glu	Arg	Gln	Arg	Leu	Glu
145					150					155				160	
Arg	Glu	Ala	Lys	Glu	Arg	Glu	Lys	Glu	Arg	Arg	Arg	Ser	Arg	Ser	Ile
			165					170					175		
Asp	Arg	Gly	Leu	Glu	Arg	Arg	Arg	Ser	Arg	Ser	Arg	Glu	Arg	His	Arg
		180						185				190			
Ser	Arg	Ser	Arg	Ser	Arg	Asp	Arg	Lys	Gly	Asp	Arg	Arg	Asp	Arg	Asp
		195				200					205				
Arg	Glu	Arg	Glu	Lys	Glu	Asn	Glu	Arg	Gly	Arg	Arg	Arg	Asp	Arg	Asp
	210				215						220				
Tyr	Asp	Lys	Glu	Arg	Gly	Asn	Glu	Arg	Glu	Lys	Glu	Arg	Glu	Arg	Ser
225				230						235				240	
Arg	Glu	Arg	Ser	Lys	Glu	Gln	Arg	Ser	Arg	Gly	Glu	Val	Glu	Glu	Lys
			245					250					255		
Lys	His	Lys	Glu	Asp	Lys	Asp	Asp	Arg	Arg	His	Arg	Asp	Asp	Lys	Arg
		260						265				270			
Asp	Ser	Lys	Lys	Glu	Lys	Lys	His	Ser	Arg	Ser	Arg	Ser	Arg	Glu	Arg



```

      275              280              285
Lys His Arg Ser Arg Ser Arg Ser Arg Asn Ala Gly Lys Arg Ser Arg
  290              295              300
Ser Arg Ser Lys Glu Lys Ser Ser Lys His Lys Asn Glu Ser Lys Glu
305              310              315              320
Lys Ser Asn Lys Arg Ser Arg Ser Gly Ser Gln Gly Arg Thr Asp Ser
      325              330              335
Val Glu Lys Ser Lys Lys Arg Glu His Ser Pro Ser Lys Glu Lys Ser
      340              345              350
Arg Lys Arg Ser Arg Ser Lys Glu Arg Ser His Lys Arg Asp His Ser
      355              360              365
Asp Ser Lys Asp Gln Ser Asp Lys His Asp Arg Arg Arg Ser Gln Ser
      370              375              380
Ile Glu Gln Glu Ser Gln Glu Lys Gln His Lys Asn Lys Asp Glu Thr
385              390              395              400
Val

```

&lt;210&gt; 4799

&lt;211&gt; 358

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4799

```

gctagcctgg ctggagaacg tgtggctctg gatcaccttt ctgggcgatc ccaagatcct
60
ctttctgttc tacttccccg cggcctacta cgctcccgc cgtgtgggca tcgcggtgct
120
ctggatcagc ctcatcaccg agtggctcaa cctcatcttc aagtgggtgag acagagaagc
180
cctccggcat cctgggtcccc acccccgagg gccctgagtc atgtgtttct ttttggagac
240
aggccctttt ggtgggtcca tgagtctggt tactacagcc aggctccagc ccagggttcac
300
cagttcccct cttcttgtga gactgggtcca ggcagccctt ctggacactg catgatca
358

```

&lt;210&gt; 4800

&lt;211&gt; 119

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4800

```

Ala Ser Leu Ala Gly Glu Arg Val Ala Leu Asp His Leu Ser Gly Arg
  1              5              10              15
Ser Gln Asp Pro Leu Ser Val Leu Leu Pro Arg Gly Leu Leu Arg Leu
      20              25              30
Pro Pro Cys Gly His Arg Gly Ala Leu Asp Gln Pro His His Arg Val
      35              40              45
Ala Gln Pro His Leu Gln Val Val Arg Gln Arg Ser Pro Pro Ala Ser
      50              55              60
Trp Ser Pro Pro Pro Arg Ala Leu Ser His Val Phe Leu Phe Gly Asp
      65              70              75              80
Arg Pro Phe Trp Trp Val His Glu Ser Gly Tyr Tyr Ser Gln Ala Pro

```

	85		90		95										
Ala	Gln	Val	His	Gln	Phe	Pro	Ser	Ser	Cys	Glu	Thr	Gly	Pro	Gly	Ser
	100							105					110		
Pro	Ser	Gly	His	Cys	Met	Ile									
	115														

<210> 4801  
 <211> 1447  
 <212> DNA  
 <213> Homo sapiens

<400> 4801  
 ttggagatca gagggtcgac gctgcttcgt tgccctggact ctgggtttccg ccctggagca  
 60  
 agccgggggcc tggtcggcag ctggggccgcc atggagtcca cgctgggagc gggcatcgtg  
 120  
 atagccgagg cgctacagaa ccagctagcc tggctggaga acgtgtggct ctggatcacc  
 180  
 tttctgggag atcccaagat cctctttctg ttctacttcc ccgcggccta ctacgcctcc  
 240  
 cgccgtgtgg gcatcgcggt gctctggatc agcctcatca ccgagtggct caacctcatc  
 300  
 ttcaagtggg ttcttttttg agacaggccc ttttggtggg tccatgagtc tggttactac  
 360  
 agccaggctc cagccaggt tcaccagttc cctctttctt gtgagactgg tccaggcagc  
 420  
 ccttctggac actgcatgat cacaggagca gccctctggc ccataatgac agccctgtct  
 480  
 tcgcaggtgg ccactcgggc ccgcagccgc tgggtaaggg tgatgcctag cctggcttat  
 540  
 tgcaccttcc ttttgccggt tggcttgctg cgaatcttca tcttagcaca tttccctcac  
 600  
 caggtgctgg ctggcctaata aactggcgct gtccctgggct ggctgatgac tnnccccgag  
 660  
 tgcctatgga gcgggagcgt aagcttctat ggggtgactg cactggccct catgctagga  
 720  
 accagcctca tctattggac cctctttaca ctgggcctgg atctttcttg gtccatcagc  
 780  
 ctacgcttca agtggtgtga gcggcctgag tggatacacg tggatagccg gccctttgcc  
 840  
 tccctgagcc gtgactcagg ggctgccttg ggccctgggca ttgccttgca ctctccctgc  
 900  
 tatgcccagg tgcgtcgggc acagctggga aatggccaga agatagcctg ccttggtgctg  
 960  
 gccatggggc tgctggggcc cctggactgg ctggggccacc cccctcagat cagcctcttc  
 1020  
 tacattttca atttctcaa gtacaccctc tggccatgcc tagtcctggc cctcgtgccc  
 1080  
 tgggcagtg acatgttcag tgcccaggaa gcaccgccc tccactcttc ctgacttctt  
 1140  
 gtgtgcctcc ctttccttcc cctcccacaa agccaacact ctgtgaccac cacactccag  
 1200  
 gaggcagccc catcccttcc cagcccttaa gtaggccttc cctccctaa atctgcttcc  
 1260

gcaccacctg gtcttagccc caaagatggg ccttctctct cccagataag ttggctctcc  
 1320  
 ctctgccttt cctctcaagc ccccaaagag caaaggcaac agcaagacca gcgggttctt  
 1380  
 gcaacactgt gaggggcagc cagggcgggc ccaataaagc ccttgaatac tttgaaaaaa  
 1440  
 aaaaaaa  
 1447

<210> 4802

<211> 377

<212> PRT

<213> Homo sapiens

<400> 4802

Leu	Glu	Ile	Arg	Gly	Ser	Thr	Leu	Leu	Arg	Cys	Leu	Asp	Ser	Gly	Phe
1				5					10					15	
Arg	Pro	Gly	Ala	Ser	Arg	Gly	Leu	Val	Gly	Ser	Trp	Ala	Ala	Met	Glu
		20					25					30			
Ser	Thr	Leu	Gly	Ala	Gly	Ile	Val	Ile	Ala	Glu	Ala	Leu	Gln	Asn	Gln
		35				40						45			
Leu	Ala	Trp	Leu	Glu	Asn	Val	Trp	Leu	Trp	Ile	Thr	Phe	Leu	Gly	Asp
	50					55				60					
Pro	Lys	Ile	Leu	Phe	Leu	Phe	Tyr	Phe	Pro	Ala	Ala	Tyr	Tyr	Ala	Ser
65				70					75					80	
Arg	Arg	Val	Gly	Ile	Ala	Val	Leu	Trp	Ile	Ser	Leu	Ile	Thr	Glu	Trp
			85					90						95	
Leu	Asn	Leu	Ile	Phe	Lys	Trp	Phe	Leu	Phe	Gly	Asp	Arg	Pro	Phe	Trp
		100					105					110			
Trp	Val	His	Glu	Ser	Gly	Tyr	Tyr	Ser	Gln	Ala	Pro	Ala	Gln	Val	His
		115				120						125			
Gln	Phe	Pro	Ser	Ser	Cys	Glu	Thr	Gly	Pro	Gly	Ser	Pro	Ser	Gly	His
	130					135					140				
Cys	Met	Ile	Thr	Gly	Ala	Ala	Leu	Trp	Pro	Ile	Met	Thr	Ala	Leu	Ser
145					150					155				160	
Ser	Gln	Val	Ala	Thr	Arg	Ala	Arg	Ser	Arg	Trp	Val	Arg	Val	Met	Pro
			165					170						175	
Ser	Leu	Ala	Tyr	Cys	Thr	Phe	Leu	Leu	Ala	Val	Gly	Leu	Ser	Arg	Ile
		180					185					190			
Phe	Ile	Leu	Ala	His	Phe	Pro	His	Gln	Val	Leu	Ala	Gly	Leu	Ile	Thr
		195				200						205			
Gly	Ala	Val	Leu	Gly	Trp	Leu	Met	Thr	Xaa	Pro	Glu	Cys	Leu	Trp	Ser
	210					215					220				
Gly	Ser	Xaa	Ser	Phe	Tyr	Gly	Leu	Thr	Ala	Leu	Ala	Leu	Met	Leu	Gly
225					230					235				240	
Thr	Ser	Leu	Ile	Tyr	Trp	Thr	Leu	Phe	Thr	Leu	Gly	Leu	Asp	Leu	Ser
			245					250						255	
Trp	Ser	Ile	Ser	Leu	Ala	Phe	Lys	Trp	Cys	Glu	Arg	Pro	Glu	Trp	Ile
		260					265						270		
His	Val	Asp	Ser	Arg	Pro	Phe	Ala	Ser	Leu	Ser	Arg	Asp	Ser	Gly	Ala
		275					280					285			
Ala	Leu	Gly	Leu	Gly	Ile	Ala	Leu	His	Ser	Pro	Cys	Tyr	Ala	Gln	Val
	290				295						300				
Arg	Arg	Ala	Gln	Leu	Gly	Asn	Gly	Gln	Lys	Ile	Ala	Cys	Leu	Val	Leu

```

305          310          315          320
Ala Met Gly Leu Leu Gly Pro Leu Asp Trp Leu Gly His Pro Pro Gln
          325          330          335
Ile Ser Leu Phe Tyr Ile Phe Asn Phe Leu Lys Tyr Thr Leu Trp Pro
          340          345          350
Cys Leu Val Leu Ala Leu Val Pro Trp Ala Val His Met Phe Ser Ala
          355          360          365
Gln Glu Ala Pro Pro Ile His Ser Ser
          370          375

```

<210> 4803  
 <211> 564  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4803
ggaaagccca ggacttagaa tcagcacact taggcactag cttataaaat attctgttgt
60
ataaaaaaag agagagagtg cctgtgtgca catgctgccc tgtacctagc cacatgactt
120
ccaaaacctg ctaatgcctg atttccatta cgtgctactc ctcaaattggc agcggcttct
180
gaatattaca gagatgggtg gctgtttgct tttctctttt gttgtagcat aaaactgttc
240
attttagctt agtgacattt gtcaagaata gcaacctttt tgcttccaag ggacttgaag
300
gaagttaa at ttagatgctt tcctctcttc ttattttgtg gaggtatttc ctgttcagta
360
gcaaatcagt tatagaatat attagcattg ttatatTTta aactaatgac taatcatttc
420
agctttattc atactgttgc attttatatt tcacagggag caatagaaaa agtgaaagaa
480
agtgacaaac tagttgcaac aagtaaaatc accctacaag acaaacagaa catgggtgaag
540
agagtcagca tcatgtctta cgcg
564

```

<210> 4804  
 <211> 53  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4804
Met Thr Asn His Phe Ser Phe Ile His Thr Val Ala Phe Tyr Ile Ser
1          5          10          15
Gln Gly Ala Ile Glu Lys Val Lys Glu Ser Asp Lys Leu Val Ala Thr
          20          25          30
Ser Lys Ile Thr Leu Gln Asp Lys Gln Asn Met Val Lys Arg Val Ser
          35          40          45
Ile Met Ser Tyr Ala
50

```

<210> 4805  
 <211> 1619

<212> DNA  
<213> Homo sapiens

<400> 4805  
ggccttggat acctggcccg ggatgctggg cggcgtcagg taaccatgga gaaagagctg  
60  
cggagtacca ttcttttcaa tgcctacaaa aaggagatat ttaccaccaa caatggctac  
120  
aaatccatgc agaaaaaact tcggagtaat tggaagattc agagcttaaa agatgaaatc  
180  
acatctgaga agttaaatgg agtaaaactg tggattacag ctgggccaag ggaaaaattt  
240  
actgcagctg agtttgaaat cctgaagaaa tatcttgaca ctggtgggga tgccttctg  
300  
atgctagggg aagggtggaga atccagattt gacaccaata ttaacttttt actagaagaa  
360  
tatggaatca tggttaataa tgatgctgtg gttagaaatg tatatcacia atatttccat  
420  
cctaaagaag ctctagtttc cagtggagtc ttgaacaggg aaattagccg agctgcagga  
480  
aaggctgtgc tggcgatcat tgatgaggaa agcagtggaa acaatgccca ggctctcacc  
540  
tttgtgtatc cttttggtgc cacattgagt gtcattgaaac cagcagtggc ggttctgtct  
600  
acaggttctg tctgcttccc acttaacaga cccatttttg ctttctatca ctcaaagaac  
660  
caagggtggga agctggcagt gcttggttca tgcacatgt tcagtgatca atatttggac  
720  
aaagaagaaa acagcaaaat catggatgtt gttgttttcc agtggctcac gacaggagac  
780  
atccaccta accagattga tgctgaggac ccagagattt ctgactacat gatgctgccc  
840  
tacacagcca ccctatcaaa gcggaatcga gagtgtctcc aggagagtga tgagatccca  
900  
agggacttta ccacctctt cgacctgtcc atcttccagc tggataccac ctcttccac  
960  
agcgtcatcg aggctcacga gcagctaaat gtgaaacatg aaccactcca gctcatccag  
1020  
cctcagtttg agacgccgct gccaaacctt cagcctgagg ttttctctcc cagtttccgg  
1080  
gagttaccac ctctctctct ggagctatct gatttagatg aaacgttctc ctctgagaag  
1140  
gcacggctgg ctgagattac caataagtgt actgaagaag acctggaatt ttatgtcagg  
1200  
aagtgtggtg atattcttgg agtaaccagt aaactaccaa aggaccaaca ggatgccaaa  
1260  
catatccttg agcacgtctt cttccaagtg gtggagttca agaaattgaa ccaggaacat  
1320  
gacatcgata caagtgaac agcattccag aacaatttct gaagaccatg cctcttgaag  
1380  
ctttttctgc ctctgattc tctctttgta aactatttct aaattgtttt tcaactcctt  
1440  
atcaaaattg ttatacact ctttctcca tgagctctgg aaggatatg catcttctgt  
1500

aatactcaga taggtataag atttttcaca aaatccttat gtaagataca ttccattttt  
 1560  
 aaaaattaaa tgtatggttg catctgtctt tttataccct aaaaaaaaaa aaaaaaaaaa  
 1619

<210> 4806

<211> 438

<212> PRT

<213> Homo sapiens

<400> 4806

Met	Glu	Lys	Glu	Leu	Arg	Ser	Thr	Ile	Leu	Phe	Asn	Ala	Tyr	Lys	Lys	1	5	10	15
Glu	Ile	Phe	Thr	Thr	Asn	Asn	Gly	Tyr	Lys	Ser	Met	Gln	Lys	Lys	Leu	20	25	30	
Arg	Ser	Asn	Trp	Lys	Ile	Gln	Ser	Leu	Lys	Asp	Glu	Ile	Thr	Ser	Glu	35	40	45	
Lys	Leu	Asn	Gly	Val	Lys	Leu	Trp	Ile	Thr	Ala	Gly	Pro	Arg	Glu	Lys	50	55	60	
Phe	Thr	Ala	Ala	Glu	Phe	Glu	Ile	Leu	Lys	Lys	Tyr	Leu	Asp	Thr	Gly	65	70	75	80
Gly	Asp	Val	Leu	Val	Met	Leu	Gly	Glu	Gly	Gly	Glu	Ser	Arg	Phe	Asp	85	90	95	
Thr	Asn	Ile	Asn	Phe	Leu	Leu	Glu	Glu	Tyr	Gly	Ile	Met	Val	Asn	Asn	100	105	110	
Asp	Ala	Val	Val	Arg	Asn	Val	Tyr	His	Lys	Tyr	Phe	His	Pro	Lys	Glu	115	120	125	
Ala	Leu	Val	Ser	Ser	Gly	Val	Leu	Asn	Arg	Glu	Ile	Ser	Arg	Ala	Ala	130	135	140	
Gly	Lys	Ala	Val	Leu	Ala	Ile	Ile	Asp	Glu	Glu	Ser	Ser	Gly	Asn	Asn	145	150	155	160
Ala	Gln	Ala	Leu	Thr	Phe	Val	Tyr	Pro	Phe	Gly	Ala	Thr	Leu	Ser	Val	165	170	175	
Met	Lys	Pro	Ala	Val	Ala	Val	Leu	Ser	Thr	Gly	Ser	Val	Cys	Phe	Pro	180	185	190	
Leu	Asn	Arg	Pro	Ile	Leu	Ala	Phe	Tyr	His	Ser	Lys	Asn	Gln	Gly	Gly	195	200	205	
Lys	Leu	Ala	Val	Leu	Gly	Ser	Cys	His	Met	Phe	Ser	Asp	Gln	Tyr	Leu	210	215	220	
Asp	Lys	Glu	Glu	Asn	Ser	Lys	Ile	Met	Asp	Val	Val	Val	Phe	Gln	Trp	225	230	235	240
Leu	Thr	Thr	Gly	Asp	Ile	His	Leu	Asn	Gln	Ile	Asp	Ala	Glu	Asp	Pro	245	250	255	
Glu	Ile	Ser	Asp	Tyr	Met	Met	Leu	Pro	Tyr	Thr	Ala	Thr	Leu	Ser	Lys	260	265	270	
Arg	Asn	Arg	Glu	Cys	Leu	Gln	Glu	Ser	Asp	Glu	Ile	Pro	Arg	Asp	Phe	275	280	285	
Thr	Thr	Leu	Phe	Asp	Leu	Ser	Ile	Phe	Gln	Leu	Asp	Thr	Thr	Ser	Phe	290	295	300	
His	Ser	Val	Ile	Glu	Ala	His	Glu	Gln	Leu	Asn	Val	Lys	His	Glu	Pro	305	310	315	320
Leu	Gln	Leu	Ile	Gln	Pro	Gln	Phe	Glu	Thr	Pro	Leu	Pro	Thr	Leu	Gln	325	330	335	
Pro	Ala	Val	Phe	Pro	Pro	Ser	Phe	Arg	Glu	Leu	Pro	Pro	Pro	Pro	Leu				

<400>	4807				
ntgggactct	gccccctctac	ctcagcacag	aatcgccccg	ggtcctacta	cagaatcaat
60					
ccttgaacac	tgcctccacg	tcgcccggctc	aatctggggcg	agaacccaga	cttccaccgc
120					
agccccgcaa	tctgcagacc	tcagcggcag	cgcaggtggc	agacctgcct	cctttgcctg
180					
tgagtcatgg	cagctcccat	gaatggccaa	gtgtgtgtgg	tgactgggtgc	ctccaggggt
240					
attggccgtg	gcattgcctt	gcagctctgc	aaagcaggcg	ccacagttta	catcactggc
300					
cgccatctgg	acacccttcg	cgttgttgct	caggaggcac	aatccctcgg	gggccaatgt
360					
gtgcctgtgg	tgtgcgattc	aagccaggag	agtgaagtgc	gaagcctggt	tgagcaagtg
420					
gatcgggaac	agcaagggcg	tctagatgtg	ctgggtcaaca	atgcttatgc	aggggtccag
480					
acgatcctga	acaccaggaa	taaggcattc	tgggaaaccc	ctgcctccat	gtgggatgat
540					
atcaacaacg	tcggactcag	aggccactac	ttttgctcag	tgtatggggc	acggctgatg
600					
gtaccagctg	gccaggggct	catcgtggtc	atctcctccc	caggaagcct	gcagtatatg
660					
ttcaatgtcc	cctatgggtg	gggcaaagct	gcgtgtgaca	agctggctgc	tgactgtgcc
720					
cacgagctgc	ggcgccatgg	ggtcagctgt	gtgtctctgt	ggccgggggat	tgtgcagaca
780					
gaactgctga	aggagcatat	ggcaaaggag	gaggtcctgc	aggatcctgt	gttgaagcag
840					
ttcaaatacag	ccttctcatc	tgcggaaacc	acagaattga	gtggcaaata	tgtgggtggc
900					
ttggcaacag	atcccaatat	cctgagcctg	agtggtaagg	tgctgccatc	ctgtgacctt
960					
gctcgacgct	atggccttcg	ggatgtggac	ggccgccccg	tccaagacta	tttgtctttg
1020					

agctctgttc tctcacacgt gtcgggctg ggctggctgg cctcctacct gccctccttc  
 1080  
 ctccgtgtgc ccaagtggat tattgccctc tacactagca agttctaacc ctctggtct  
 1140  
 gacactacgt ctctgcttgt ctgagaagac aacgcgt  
 1177

<210> 4808  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 4808  
 Met Ala Ala Pro Met Asn Gly Gln Val Cys Val Val Thr Gly Ala Ser  
 1 5 10 15  
 Arg Gly Ile Gly Arg Gly Ile Ala Leu Gln Leu Cys Lys Ala Gly Ala  
 20 25 30  
 Thr Val Tyr Ile Thr Gly Arg His Leu Asp Thr Leu Arg Val Val Ala  
 35 40 45  
 Gln Glu Ala Gln Ser Leu Gly Gly Gln Cys Val Pro Val Val Cys Asp  
 50 55 60  
 Ser Ser Gln Glu Ser Glu Val Arg Ser Leu Phe Glu Gln Val Asp Arg  
 65 70 75 80  
 Glu Gln Gln Gly Arg Leu Asp Val Leu Val Asn Asn Ala Tyr Ala Gly  
 85 90 95  
 Val Gln Thr Ile Leu Asn Thr Arg Asn Lys Ala Phe Trp Glu Thr Pro  
 100 105 110  
 Ala Ser Met Trp Asp Asp Ile Asn Asn Val Gly Leu Arg Gly His Tyr  
 115 120 125  
 Phe Cys Ser Val Tyr Gly Ala Arg Leu Met Val Pro Ala Gly Gln Gly  
 130 135 140  
 Leu Ile Val Val Ile Ser Ser Pro Gly Ser Leu Gln Tyr Met Phe Asn  
 145 150 155 160  
 Val Pro Tyr Gly Val Gly Lys Ala Ala Cys Asp Lys Leu Ala Ala Asp  
 165 170 175  
 Cys Ala His Glu Leu Arg Arg His Gly Val Ser Cys Val Ser Leu Trp  
 180 185 190  
 Pro Gly Ile Val Gln Thr Glu Leu Leu Lys Glu His Met Ala Lys Glu  
 195 200 205  
 Glu Val Leu Gln Asp Pro Val Leu Lys Gln Phe Lys Ser Ala Phe Ser  
 210 215 220  
 Ser Ala Glu Thr Thr Glu Leu Ser Gly Lys Cys Val Val Ala Leu Ala  
 225 230 235 240  
 Thr Asp Pro Asn Ile Leu Ser Leu Ser Gly Lys Val Leu Pro Ser Cys  
 245 250 255  
 Asp Leu Ala Arg Arg Tyr Gly Leu Arg Asp Val Asp Gly Arg Pro Val  
 260 265 270  
 Gln Asp Tyr Leu Ser Leu Ser Ser Val Leu Ser His Val Ser Gly Leu  
 275 280 285  
 Gly Trp Leu Ala Ser Tyr Leu Pro Ser Phe Leu Arg Val Pro Lys Trp  
 290 295 300  
 Ile Ile Ala Leu Tyr Thr Ser Lys Phe  
 305 310



<210> 4809  
 <211> 999  
 <212> DNA  
 <213> Homo sapiens

<400> 4809  
 tccggagagg gccttgtcac attctcctac tccccaagtg aggcctccgt ccttctgttc  
 60  
 cccatgtgag gcctccatgg aatgaggagg ggtctgtccc agcagtgcct accctgcttc  
 120  
 tcctgtaaga gactgttccc tcctcccaca cttccttgag aagcacttgc ccctccagga  
 180  
 taacagcatc actgagcctg gggaacagac agtccctagt ccaagccctg gaggtaagaa  
 240  
 aggagggggc ggccaggatg ctcaagtgtg tcagcatagg ccaggcccct gctaccttga  
 300  
 ccctgagggc cagagcacag gcggaactcg gacatagggc cacaggtgac tgcttaatga  
 360  
 caaccatgct agctcctggc aatgaggggt caggagcgtg tgtgaataat ggggcacctg  
 420  
 acccagggct ggggtacaga ggggtgggggt taaaaatggg tcatctgtcg caggacacct  
 480  
 ggaggatgag gaaagagccc ccaggcaaac ccattctgtg agcaattccc atctgctgtc  
 540  
 tccaaatcct gtctagactc tgaccctgct ggccccttcc agggctccca gcctgggttc  
 600  
 cacagcggcc tcctaaccaa caccctgctg gctctggtac cagcccacgc cagacagaga  
 660  
 agccagccat cattgtcctt gtcttctctc ccgagaaaagt cgaggctctg gcagggctca  
 720  
 gggcctatgt ggccaggccc tggatacttc cctgacctca cctcccctac agcacagccc  
 780  
 cttcagctcc tgggggcttt gcacggctgc tccttctctc cccctctgcc ctcaggccag  
 840  
 ccttgctcct gatcaactacc ttcttcattt ctgtacctgg ctgacatctg tccttccccg  
 900  
 ccaactacaa ggtagacccc gggagggcag ggatggtgca ctgtgttcag ggtgcatttg  
 960  
 ccgccagtgg agggaggcac ccaggccact cccgccggc  
 999

<210> 4810  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 4810  
 Gly Lys Ser Pro Gln Ala Asn Pro Phe Cys Glu Gln Phe Pro Ser Ala  
 1 5 10 15  
 Val Ser Lys Ser Cys Leu Asp Ser Asp Pro Ala Gly Pro Phe Gln Gly  
 20 25 30  
 Ser Gln Pro Gly Cys His Ser Gly Leu Leu Thr Asn Thr Pro Ala Ala  
 35 40 45  
 Leu Val Pro Ala His Ala Arg Gln Arg Ser Gln Pro Ser Leu Leu Leu

```

      50              55              60
Ser Ser Ser Pro Arg Lys Ser Arg Ser Trp Gln Gly Ser Gly Pro Met
65              70              75              80
Trp Pro Gly Pro Gly Tyr Phe Pro Asp Leu Thr Ser Pro Thr Ala Gln
      85              90              95
Pro Leu Gln Leu Leu Gly Ala Leu His Gly Cys Ser Phe Pro Pro Pro
      100              105              110
Leu Pro Ser Gly Gln Pro Cys Pro
      115              120

```

```

<210> 4811
<211> 3207
<212> DNA
<213> Homo sapiens

```

```

<400> 4811
nttagtctgc cccacacctc gcacccgccc ccggaggggca cccgaggacc atgactatga
60
cagatcctgc ctcgatggcc ccgccacccc gagaagagga ggaagaagag gaggaggagg
120
atgaacccgt ccagaagcc ccagcccca ccaggagcg ccggcagaag cctgttgtgc
180
acccctcggc acctgcccc ctcctaagg actacgcttt taccttcttc gacccaatg
240
acccggcgtg ccaggagatc ctgtttgacc ctcagaccac catccccgag ctgtttgcc
300
ttgtgcgcca gtgggtgccc caagtccagc acaagataga cgtcatcggc aatgagattc
360
tgccgagagg ctgccatgtg aacgatcgtg acgggctgac cgacatgaca ctgctccact
420
atgcgtgcaa agctggggcc cacggagtcg gggacccgcg gcagcgtgcg cctctcgag
480
cagctgctgg cgctgggcca gatgtgacgc tgcgtagcgc tggaccaaca tgaacgcgct
540
tcactacgcg gcctattttg atgtgccga cctcgtgctg gtgctgctga aggggtgcgag
600
gccgcgagtg gtgaactcca cgtgcagtga cttcaaccac ggctcagccc tgcacatcgc
660
tgcttccagc ctgtgcctgg gcgccgcaa tgtttgctgg agcacggcgc caaccctgcg
720
ctgaggaatc gaaaaggaca ggtgccggcg gaggtggtcc cagatcctat ggacatgtcc
780
ctggacaagg cagaggcggc actggtggcc aaggagctgc ggacgcttct ggaagaggca
840
gtgccactat cttgcgccct cccaaggtc acgctacca actatgacaa cgtcccaggc
900
aatctcatgc ttagcgcact gggcttgccg ctgggagacc gcgtgctgct ggatggccag
960
aagacgggca cactgcggtt ctgtgggacc acggagtttg ccagcggcag ttgggtgggc
1020
gtggagctgg acgaacctga gggcaagaac gatggcagcg ttgggggctg tcggtacttc
1080
atctgccctc ccaagcaggg tctctttgcc tccgtgtcca agatctccaa ggcagtggac
1140

```

gcacccccct cctctgtcac ctccacaccc ggaccccccc ggatggactt ctcccgtgtc  
1200  
accggcaaag gccgcaggga acacaaaggc aagaagaaga ccccatcatc cccatctctg  
1260  
ggcagcttgc agcagcgtga cggggccaag gctgagggtg gagaccaggt ccttgtcgcg  
1320  
ggccagaagc aggggatcgt gcgcttctac gggaagacag actttgcccc aggttactgg  
1380  
tatggcattg agctggacca gcccacaggc aagcatgatg gctctgtctt cgggtgtccg  
1440  
tacttcactt gcccccgag gcatgggggtc ttcgcaccag catcccgtat tcagaggatt  
1500  
ggcggatcca ctgattcccc cggggacagc gttggagcca aaaaagtgca tcaagtgaca  
1560  
atgacgcagc ccaaacgcac cttcaccaca gtccggaccc caaaggacat tgcacagag  
1620  
aactccattt ccaggttgcg gttctgctgc tggttcccct ggatgctgag ggcggagatg  
1680  
cagtcttaga ggccctggac acctgacaaa gagacagagt cccactagc atctcctgac  
1740  
acccgaggag ccctgagtca ccctgagata gagattccca gtaacacatc cagagtagag  
1800  
accctgttta gccagccctc gatcattgag gcccattat taacagatac tcccataata  
1860  
accccaaat acagacccca tgtcaccag aaagagattc cctgagtagc accttcaggc  
1920  
tagtccctat ccccaacccc tcagagcaga ttcccagatt aacagatttc catatcaccc  
1980  
caaatgatgg tgacctctc cacataatgc attacaacag aacattcttg aatcacccaa  
2040  
ccctggatca gaaacctccc cattaacaaa cactgcccct taagtccctc tgaaataaac  
2100  
ataggtcaca cccccaagc aaaagagtaa cagacattca tgtcattggt cccatttaa  
2160  
catcagtcct ctcaagatgt cgtgaccca tggtcaccct gaagccctta gattccaacc  
2220  
cctcaatcag agacttcctt cattaacaaa gacccttggt cttatccctc aagaagaaac  
2280  
ccaccataac cagcccactg tcaccctaa ttacagaca ccaaaacagt cctggaagtg  
2340  
ctaattacag gacccccaa gtcttctac cctctgcacc ctcaagaaac cccagtgcc  
2400  
ttgtatgaag cccacccac atggcccaca gctcctgtgc tggccagact ccagaaaaat  
2460  
tctctatttt ttaagtaacg acttccccct ttgggggacc ccaaaatttg gagggcccat  
2520  
tctaggactc tggggatccc aaaccctaga gtacacacgt cccaaactcc cctgtgcct  
2580  
caagtccctac agcccctaga agacccaat gccgtaactc ctaggacccc caaatcatgg  
2640  
aatcccaaat cccagggaa tcccaaattt gaaaatccaa tccaagtcc ccaggaaacc  
2700  
caatcatgag gtccttgtgc ctggtatgga ggagactgca gtcaggatat gcattccagg  
2760

ctcccagaca cctcaagccc tattcacagg caccaggaaa cccacacacag gaattcccat  
 2820  
 ccctggaaac tggagaattt caatgccccg agtccatggg tttcaagaca ccaaattcca  
 2880  
 agagccccag ccctaaggga accccaaatc ctaaagcctc catctctaata aatggaagg  
 2940  
 cccaaggcc ctgaggggat ctcaaatcct ggaaccccg tttcaatcta cgttctagtc  
 3000  
 actggcctca aaggacccca cagcacctgg gccagaccaa cagctcgagg gagaacctga  
 3060  
 aggcccaggg ggtccagggc ggacctgggg ccccgaccac caaggacagc tcacgactgc  
 3120  
 cccttcactg catgtcccca aatcagcat gactcctgtc ctcttcaata aagacgtttc  
 3180  
 tatggccaaa aaaaaaaaaa aaaaaaa  
 3207

&lt;210&gt; 4812

&lt;211&gt; 306

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4812

Met	Asp	Met	Ser	Leu	Asp	Lys	Ala	Glu	Ala	Ala	Leu	Val	Ala	Lys	Glu
1				5				10						15	
Leu	Arg	Thr	Leu	Leu	Glu	Glu	Ala	Val	Pro	Leu	Ser	Cys	Ala	Leu	Pro
			20					25					30		
Lys	Val	Thr	Leu	Pro	Asn	Tyr	Asp	Asn	Val	Pro	Gly	Asn	Leu	Met	Leu
		35					40					45			
Ser	Ala	Leu	Gly	Leu	Arg	Leu	Gly	Asp	Arg	Val	Leu	Leu	Asp	Gly	Gln
	50					55				60					
Lys	Thr	Gly	Thr	Leu	Arg	Phe	Cys	Gly	Thr	Thr	Glu	Phe	Ala	Ser	Gly
65					70					75					80
Ser	Trp	Val	Gly	Val	Glu	Leu	Asp	Glu	Pro	Glu	Gly	Lys	Asn	Asp	Gly
			85					90					95		
Ser	Val	Gly	Gly	Val	Arg	Tyr	Phe	Ile	Cys	Pro	Pro	Lys	Gln	Gly	Leu
		100						105					110		
Phe	Ala	Ser	Val	Ser	Lys	Ile	Ser	Lys	Ala	Val	Asp	Ala	Pro	Pro	Ser
	115						120					125			
Ser	Val	Thr	Ser	Thr	Pro	Gly	Pro	Pro	Arg	Met	Asp	Phe	Ser	Arg	Val
	130					135					140				
Thr	Gly	Lys	Gly	Arg	Arg	Glu	His	Lys	Gly	Lys	Lys	Lys	Thr	Pro	Ser
145				150						155					160
Ser	Pro	Ser	Leu	Gly	Ser	Leu	Gln	Gln	Arg	Asp	Gly	Ala	Lys	Ala	Glu
			165					170						175	
Val	Gly	Asp	Gln	Val	Leu	Val	Ala	Gly	Gln	Lys	Gln	Gly	Ile	Val	Arg
		180						185					190		
Phe	Tyr	Gly	Lys	Thr	Asp	Phe	Ala	Pro	Gly	Tyr	Trp	Tyr	Gly	Ile	Glu
	195					200						205			
Leu	Asp	Gln	Pro	Thr	Gly	Lys	His	Asp	Gly	Ser	Val	Phe	Gly	Val	Arg
	210					215					220				
Tyr	Phe	Thr	Cys	Pro	Pro	Arg	His	Gly	Val	Phe	Ala	Pro	Ala	Ser	Arg
225				230						235					240
Ile	Gln	Arg	Ile	Gly	Gly	Ser	Thr	Asp	Ser	Pro	Gly	Asp	Ser	Val	Gly

```

                245                250                255
Ala Lys Lys Val His Gln Val Thr Met Thr Gln Pro Lys Arg Thr Phe
                260                265                270
Thr Thr Val Arg Thr Pro Lys Asp Ile Ala Ser Glu Asn Ser Ile Ser
                275                280                285
Arg Leu Leu Phe Cys Cys Trp Phe Pro Trp Met Leu Arg Ala Glu Met
                290                295                300
Gln Ser
305

```

<210> 4813  
 <211> 400  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4813
tgccacact tacccaacag gtaggaggta cagggaggat taaactgaac gcggttcctg
60
gtgggtgtcc tgcacatgct gctgtctcct tggggctctg cacctgccct cctgtctgcc
120
agtgactgtg ggtgggaaag gagggcgtgg tggtgcagc tttcctctgc aaacctccac
180
ctgccccaca gggcttggct tttcctccag ctgtccagga aaccaccatc atgattgtta
240
aacacagatt tgaacattca cgaagaaact tccaggggtga gccaaaccct cttcctcccc
300
actgcacctc caagcagcct tcctgaaagg gaaaagagta cagacctgcc ctctggggac
360
ccctgtgccc tgccatgacc agcctttccc cttcacgcgt
400

```

<210> 4814  
 <211> 125  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4814
Met Ala Gly His Arg Gly Pro Gln Arg Ala Gly Leu Tyr Ser Phe Pro
 1                5                10                15
Phe Gln Glu Gly Cys Leu Glu Val Gln Trp Gly Gly Arg Gly Phe Gly
                20                25                30
Ser Pro Trp Lys Phe Leu Arg Glu Cys Ser Asn Leu Cys Leu Thr Ile
                35                40                45
Met Met Val Val Ser Trp Thr Ala Gly Gly Lys Ala Lys Pro Cys Gly
                50                55                60
Arg Gly Gly Gly Leu Gln Arg Lys Ala Ala Ala Thr Thr Ala Ser Phe
65                70                75                80
Pro Thr His Ser His Trp Gln Thr Gly Gly Gln Val Gln Ser Pro Lys
                85                90                95
Glu Thr Ala Ala Cys Ala Gly His Pro Pro Gly Thr Ala Phe Ser Leu
                100                105                110
Ile Leu Pro Val Pro Pro Thr Cys Trp Val Ser Val Ala
                115                120                125

```

<210> 4815  
 <211> 528  
 <212> DNA  
 <213> Homo sapiens

<400> 4815  
 nngcgcgcca ggagctctgc attgaaggca ctggggtaaa gtgaatgccg aagacagaag  
 60  
 atttggtatga tacaccactg acttttctttg tttggaatac acgttatgaa ccctttctgg  
 120  
 agcatgtcta caagctctgt acgcaaacga tctgaagggtg aagagaagac attaacaggg  
 180  
 gacgtgaaaa ccagtcctcc acgaactgca ccaaagaaac agctaccttc tattcccaaa  
 240  
 aatgcttttg ccataactaa gcctacatca cctgccccag cagcacagtc aacaaatggc  
 300  
 acccatgcct cttacggacc cttctacctg gaatattcac tccttgcaaga atttaccttg  
 360  
 gttgtgaagc agaagctacc aggcgtctat gtgcagccat cttatcgctc tgcattaatg  
 420  
 tagtttgag taatattcat acggcatgga ctttaccaag atggcgtatt taagtttaca  
 480  
 gtttacatcc ctgataacta tccagatggt gactgtccac gcttggtg  
 528

<210> 4816  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 4816  
 Met Asn Pro Phe Trp Ser Met Ser Thr Ser Ser Val Arg Lys Arg Ser  
 1 5 10 15  
 Glu Gly Glu Glu Lys Thr Leu Thr Gly Asp Val Lys Thr Ser Pro Pro  
 20 25 30  
 Arg Thr Ala Pro Lys Lys Gln Leu Pro Ser Ile Pro Lys Asn Ala Leu  
 35 40 45  
 Pro Ile Thr Lys Pro Thr Ser Pro Ala Pro Ala Ala Gln Ser Thr Asn  
 50 55 60  
 Gly Thr His Ala Ser Tyr Gly Pro Phe Tyr Leu Glu Tyr Ser Leu Leu  
 65 70 75 80  
 Ala Glu Phe Thr Leu Val Val Lys Gln Lys Leu Pro Gly Val Tyr Val  
 85 90 95  
 Gln Pro Ser Tyr Arg Ser Ala Leu Met  
 100 105

<210> 4817  
 <211> 1106  
 <212> DNA  
 <213> Homo sapiens

<400> 4817  
 nntgatcagg aagcgggagc gtagggccac gcctgcggcg ctgctggttg aggctgtgtg  
 60

ggtggggggac gggccgaggc gatggcggag aagtttgacc acctagagga gcacctggag  
 120  
 aagttcgtgg agaacattcg gcagctcggc atcatcgtca gtgacttcca gccagcagc  
 180  
 caggccgggc tcaacaaaaa gctgaatttt attgttactg gcttacagga tattgacaag  
 240  
 tgcagacagc agcttcatga tattactgta ccgttagaag tttttgaata tatagatcaa  
 300  
 ggtcgaaatc cccagctcta caccaaagag tgcctggaga gggctctagc taaaaatgag  
 360  
 caagttaaag gcaagatcga caccatgaag aaatttataa gcctgttgat tcaagaactt  
 420  
 tctaaagtat ttccggaaga catggctaag tatcgaagca tccgggggga ggatcacccg  
 480  
 ccttcttaac cagctcaccc tccctgtgtg aagatccccc gggactgcga tgcggcgtga  
 540  
 ggctgggact gcgagtgtg acgccacctt cctgctgagg tgggactggg ccctggacac  
 600  
 acccctcagc ccctctgtcc tcattgtttg gcctcatggg accgaggggc tggaggagag  
 660  
 gcggagctgt gcccagctg ttccagcagc ttgtctggcg tcaactggct ttcagagtgc  
 720  
 tgacccctca tcaactgtgg gatcattctc tctgagggca gatgaggcgc aggaaaatag  
 780  
 tcttggaat gttaaataat atgggtaaat taaaagtttt acaacattct acctaattt  
 840  
 tttcttttaa catacttttt ctgttctatt gtattatggt gtccgaaagc taaataacga  
 900  
 ctaggaaaaa ttttttttaa aaaagaaaaa tcagtttaat gtgggaagta cttaagtgg  
 960  
 attatatatt acattttcaa gtatagtgc taaagaatgt tttaaagtga actgttttca  
 1020  
 tggatttcaa ttagacatgc ctataataaa ctaagtatgt ggcttaaaaa aaaaaaaaaa  
 1080  
 aaaaaaaaaa aaaaaaaaaa aaaaaa  
 1106

&lt;210&gt; 4818

&lt;211&gt; 135

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4818

Met	Ala	Glu	Lys	Phe	Asp	His	Leu	Glu	Glu	His	Leu	Glu	Lys	Phe	Val
1				5				10					15		
Glu	Asn	Ile	Arg	Gln	Leu	Gly	Ile	Ile	Val	Ser	Asp	Phe	Gln	Pro	Ser
			20				25						30		
Ser	Gln	Ala	Gly	Leu	Asn	Gln	Lys	Leu	Asn	Phe	Ile	Val	Thr	Gly	Leu
			35				40					45			
Gln	Asp	Ile	Asp	Lys	Cys	Arg	Gln	Gln	Leu	His	Asp	Ile	Thr	Val	Pro
			50			55					60				
Leu	Glu	Val	Phe	Glu	Tyr	Ile	Asp	Gln	Gly	Arg	Asn	Pro	Gln	Leu	Tyr
65					70				75					80	
Thr	Lys	Glu	Cys	Leu	Glu	Arg	Ala	Leu	Ala	Lys	Asn	Glu	Gln	Val	Lys

<400> 4819  
cgccgcgcgc cccgactccg cgggtgggcga ggcacctgtg aggtgaccat ggaggctggt  
60  
ggcctcccct tggagctgtg gcgcgatgatc ttagcctact tgcaccttcc cgacctgggc  
120  
cgctgcagcc tggatatgcag ggcttgggat gaactgatcc tcagtctcga cagcaccgcg  
180  
tggcggcgagc tgtgtctctggg ttgcaccgag tgccgccatc ccaattggcc caaccagcca  
240  
gatgtggagc ctgagtccttg gagagaagcc ttcaagcagc attaccttgc atccaagaca  
300  
tggaccaaga atgccttgga cttggagtcct tccatctgct tttctctatt ccgccggagg  
360  
agggaaacgac gtaccctgag tgttggggcca ggccgtgagt ttgacagcct gggcagtgcc  
420  
ttggccatgg ccagcctgta tgaccgaatt gtgctcttcc cagggtgtgta cgaagagcaa  
480  
ggtgaaatca tcttgaaggt gcctgtggag attgtagggc aggggaagtt gggatgaagt  
540  
gccctgctgg ccagcattga tcagcactgc tcaaccacac gcctgtgcaa cctcgtcttc  
600  
acgccagcct ggttctcacc catcatgtat aagacaacat caggtcacgt ccagtttgac  
660  
aactgcaact ttgagaacgg gcacatccag gtccatggcc cgggtacttg ccaagtgaag  
720  
ttctgtacct tcaaaaacac ccatatcttc ctgcacaacg tgccctgtg tgtcctggaa  
780  
aactgtgaat ttgtgggcag tgaaaacaac tctgtgactg ttgagggtca cccatctgag  
840  
gataagaact gggcctacaa gtatctacta gggcttatca agtcctcacc cacttttctc  
900  
cccacagagg actctgactt tttaatgtcc ctggacctag agagccggga ccaggcctgg  
960  
agcccaaaga cctgtgacat tgttatcgag ggcagccaga gccctaccag ccagcttct  
1020  
agctcccaa agccaggctc caaggctggc tcacaggagg cagagggtgg tagtgatggt  
1080  
gaaagggtgg cccagacccc ggacagcagc gatggaggcc tgagtcccag cggtgaggat  
1140  
gaagatgagg accagctgat gtacagacta tccatccaag tgcaggggcc acgcctgta  
1200



ttggggggct catttctggg cccacctcta ccaggagcat ccattcagct gcccagctgc  
 1260  
 ctagtgtctga actcactgca gcaggagctg cagaaggata aggaggccat ggcactggcc  
 1320  
 aactccgtgc agggctgcct catccgcaag tgcctcttcc gggacgggaa gggaggcgctc  
 1380  
 ttcgtctgct cccacggcag agccaagatg gaaggaaaca tcttcggaa cctgacttac  
 1440  
 gcagtgcggt gtatacataa tagcaagatc atcatgctca ggaacgacat ttaccgctgc  
 1500  
 cgagcgtcag gcatctttct tcgcttggag ggcggtggct tgattgccgg caacaacatt  
 1560  
 taccacaatg cagaggctgg tgtagacatc cggaaaaagt ccaaccctact tcagattggt  
 1620  
 aaccctcgtg ccgaattctt ggcctcgagg gccaa  
 1655

&lt;210&gt; 4820

&lt;211&gt; 551

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4820

Arg	Pro	Arg	Pro	Gly	Leu	Arg	Gly	Gly	Arg	Ala	Pro	Cys	Glu	Val	Thr
1				5					10					15	
Met	Glu	Ala	Gly	Gly	Leu	Pro	Leu	Glu	Leu	Trp	Arg	Met	Ile	Leu	Ala
			20					25					30		
Tyr	Leu	His	Leu	Pro	Asp	Leu	Gly	Arg	Cys	Ser	Leu	Val	Cys	Arg	Ala
		35					40					45			
Trp	Tyr	Glu	Leu	Ile	Leu	Ser	Leu	Asp	Ser	Thr	Arg	Trp	Arg	Gln	Leu
	50					55					60				
Cys	Leu	Gly	Cys	Thr	Glu	Cys	Arg	His	Pro	Asn	Trp	Pro	Asn	Gln	Pro
65					70					75				80	
Asp	Val	Glu	Pro	Glu	Ser	Trp	Arg	Glu	Ala	Phe	Lys	Gln	His	Tyr	Leu
			85						90					95	
Ala	Ser	Lys	Thr	Trp	Thr	Lys	Asn	Ala	Leu	Asp	Leu	Glu	Ser	Ser	Ile
			100					105					110		
Cys	Phe	Ser	Leu	Phe	Arg	Arg	Arg	Arg	Glu	Arg	Arg	Thr	Leu	Ser	Val
		115					120					125			
Gly	Pro	Gly	Arg	Glu	Phe	Asp	Ser	Leu	Gly	Ser	Ala	Leu	Ala	Met	Ala
	130					135					140				
Ser	Leu	Tyr	Asp	Arg	Ile	Val	Leu	Phe	Pro	Gly	Val	Tyr	Glu	Glu	Gln
145					150					155					160
Gly	Glu	Ile	Ile	Leu	Lys	Val	Pro	Val	Glu	Ile	Val	Gly	Gln	Gly	Lys
			165						170					175	
Leu	Gly	Glu	Val	Ala	Leu	Leu	Ala	Ser	Ile	Asp	Gln	His	Cys	Ser	Thr
		180					185						190		
Thr	Arg	Leu	Cys	Asn	Leu	Val	Phe	Thr	Pro	Ala	Trp	Phe	Ser	Pro	Ile
	195						200					205			
Met	Tyr	Lys	Thr	Thr	Ser	Gly	His	Val	Gln	Phe	Asp	Asn	Cys	Asn	Phe
	210					215					220				
Glu	Asn	Gly	His	Ile	Gln	Val	His	Gly	Pro	Gly	Thr	Cys	Gln	Val	Lys
225					230					235					240
Phe	Cys	Thr	Phe	Lys	Asn	Thr	His	Ile	Phe	Leu	His	Asn	Val	Pro	Leu

245 250 255  
 Cys Val Leu Glu Asn Cys Glu Phe Val Gly Ser Glu Asn Asn Ser Val  
 260 265 270  
 Thr Val Glu Gly His Pro Ser Ala Asp Lys Asn Trp Ala Tyr Lys Tyr  
 275 280 285  
 Leu Leu Gly Leu Ile Lys Ser Ser Pro Thr Phe Leu Pro Thr Glu Asp  
 290 295 300  
 Ser Asp Phe Leu Met Ser Leu Asp Leu Glu Ser Arg Asp Gln Ala Trp  
 305 310 315 320  
 Ser Pro Lys Thr Cys Asp Ile Val Ile Glu Gly Ser Gln Ser Pro Thr  
 325 330 335  
 Ser Pro Ala Ser Ser Ser Pro Lys Pro Gly Ser Lys Ala Gly Ser Gln  
 340 345 350  
 Glu Ala Glu Val Gly Ser Asp Gly Glu Arg Val Ala Gln Thr Pro Asp  
 355 360 365  
 Ser Ser Asp Gly Gly Leu Ser Pro Ser Gly Glu Asp Glu Asp Glu Asp  
 370 375 380  
 Gln Leu Met Tyr Arg Leu Ser Tyr Gln Val Gln Gly Pro Arg Pro Val  
 385 390 395 400  
 Leu Gly Gly Ser Phe Leu Gly Pro Pro Leu Pro Gly Ala Ser Ile Gln  
 405 410 415  
 Leu Pro Ser Cys Leu Val Leu Asn Ser Leu Gln Gln Glu Leu Gln Lys  
 420 425 430  
 Asp Lys Glu Ala Met Ala Leu Ala Asn Ser Val Gln Gly Cys Leu Ile  
 435 440 445  
 Arg Lys Cys Leu Phe Arg Asp Gly Lys Gly Gly Val Phe Val Cys Ser  
 450 455 460  
 His Gly Arg Ala Lys Met Glu Gly Asn Ile Phe Arg Asn Leu Thr Tyr  
 465 470 475 480  
 Ala Val Arg Cys Ile His Asn Ser Lys Ile Ile Met Leu Arg Asn Asp  
 485 490 495  
 Ile Tyr Arg Cys Arg Ala Ser Gly Ile Phe Leu Arg Leu Glu Gly Gly  
 500 505 510  
 Gly Leu Ile Ala Gly Asn Asn Ile Tyr His Asn Ala Glu Ala Gly Val  
 515 520 525  
 Asp Ile Arg Lys Lys Ser Asn Pro Leu Gln Ile Gly Asn Pro Arg Ala  
 530 535 540  
 Glu Phe Leu Ala Ser Arg Ala  
 545 550

&lt;210&gt; 4821

&lt;211&gt; 585

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4821

ggccgcgtgg aggtgctgac cgatgccgga ggttggtgctg tgattgaccg gagcggccgt  
 60  
 cactttggta caatcctcaa ttacctgcgg gatgggtctg tgccactgcc ggagagtacg  
 120  
 agagaactgg gggagctgct gggcgaagca cgctactacc tgggtgcaggg cctgattgag  
 180  
 gactgccagc tggcgctgca gcaaaaaagg gagacgctgt ccccgctgtg cctcatcccc  
 240

atggtgacat ctccccggga ggagcagcag ctctggcca gcacctccaa gcccggtggtg  
 300  
 aagctcctgc acaaccgcag taacaacaag tactcctaca ccagcacttc agatgacaac  
 360  
 ctacttaaga acatcgagct gtctgacaag ctggccctgc gcttccacgg gcggctactc  
 420  
 ttctcaagg atgtcctggg ggacgagatc tgctgctggt ctttctacgg gcagggccgc  
 480  
 aaaatcgccg aggtgtgctg cacctccatt gtctatgcta cggagaagaa gcagaccaag  
 540  
 gtcagagggg ctccagagcc tatgttgggg gctggggggtg gccac  
 585

<210> 4822  
 <211> 195  
 <212> PRT  
 <213> Homo sapiens

<400> 4822  
 Gly Arg Val Glu Val Leu Thr Asp Ala Gly Gly Trp Val Leu Ile Asp  
 1 5 10 15  
 Arg Ser Gly Arg His Phe Gly Thr Ile Leu Asn Tyr Leu Arg Asp Gly  
 20 25 30  
 Ser Val Pro Leu Pro Glu Ser Thr Arg Glu Leu Gly Glu Leu Leu Gly  
 35 40 45  
 Glu Ala Arg Tyr Tyr Leu Val Gln Gly Leu Ile Glu Asp Cys Gln Leu  
 50 55 60  
 Ala Leu Gln Gln Lys Arg Glu Thr Leu Ser Pro Leu Cys Leu Ile Pro  
 65 70 75 80  
 Met Val Thr Ser Pro Arg Glu Glu Gln Gln Leu Leu Ala Ser Thr Ser  
 85 90 95  
 Lys Pro Val Val Lys Leu Leu His Asn Arg Ser Asn Asn Lys Tyr Ser  
 100 105 110  
 Tyr Thr Ser Thr Ser Asp Asp Asn Leu Leu Lys Asn Ile Glu Leu Phe  
 115 120 125  
 Asp Lys Leu Ala Leu Arg Phe His Gly Arg Leu Leu Phe Leu Lys Asp  
 130 135 140  
 Val Leu Gly Asp Glu Ile Cys Cys Trp Ser Phe Tyr Gly Gln Gly Arg  
 145 150 155 160  
 Lys Ile Ala Glu Val Cys Cys Thr Ser Ile Val Tyr Ala Thr Glu Lys  
 165 170 175  
 Lys Gln Thr Lys Val Arg Gly Ala Pro Glu Pro Met Leu Gly Ala Gly  
 180 185 190  
 Gly Gly His  
 195

<210> 4823  
 <211> 1984  
 <212> DNA  
 <213> Homo sapiens

<400> 4823  
 nggtttttgt tttttgagcc gcaccccgcg gaggcgagga agcagcagcc gcagcacagc  
 60

agcagctcca atggcggttaa aatggagaat gatgaatcag caaaagaaga gaaatctgac  
 120  
 ttaaaggaaa aatctacagg aagtaagaag gccaatagat ttcattcctta ttcaaaagac  
 180  
 aagaattcgg gcaactggaga aaagaagggt ccaaatacgta acagagtttt cattagcaac  
 240  
 atcccatatg acatgaaatg gcaagctatt aaagatctaa tgagagagaa agttggtgag  
 300  
 gttacatacg tggagctctt taaggatgcg gaaggaaaat caaggggttg tgggtgtggtt  
 360  
 gaattcaaag atgaagaatt tgtaaagaaa gccctagaaa ctatgaacaa atatgatctt  
 420  
 agtgggaagac cccttaatat taaagaggat cctgatggag aaaatgctcg tagggcattg  
 480  
 cagegaacag gaggatcatt tccaggagga cacgtccctg atatgggac agggttgatg  
 540  
 aatttaccac cttccatact caataatcca aacattcctc ctgaagtcac cagtaatttg  
 600  
 caggccggta gacttggttc cacaattttt gttgccaatc ttgacttcaa agttggttgg  
 660  
 aagaagctaa aggaagtgtt cagcatagct ggaactgtga agcgggcaga tattaagaa  
 720  
 gacaaagatg gcaagagcag aggaatgggc actgtcactt ttgagcaagc aattgaagca  
 780  
 gttcaagcaa tttctatgtt caatgggcag tttttatttg atagacctat gcatgtgaaa  
 840  
 atggatgaca agtctgttcc tcatgaagag taccgttcac ctgatggtaa aacaccacaa  
 900  
 ttaccacgtg gtcttgaggg cattgggatg ggacttggtc cgggtggaca gcctattagt  
 960  
 gccagccagt tgaacatagg tggagtaatg ggaaatttag gtccaggtgg tatgggaatg  
 1020  
 gatggtccag gttttggagg aatgaataga attggaggag gaatagggtt tgggtggtctg  
 1080  
 gaagcaatga atagcatggg aggatattgga ggagttggcc gaatgggaga gctgtaccgt  
 1140  
 ggtgcatga ctagtagcat ggagcgagat ttcggacgtg gtgatattgg aataaatcga  
 1200  
 gcctttggcg attccttttg tagacttggc agtgcaatga ttggagggat tacaggaaga  
 1260  
 ataggatctt ctaacatggg tccagtagga tctggaataa gtggtggaat gggtagcatg  
 1320  
 aacagtgtga ctggaggaat ggggatggga ctggaccgga tgagttccag ctttgataga  
 1380  
 atgggaccag gtataggagc tatactggaa aggagcatcg atatggatcg aggattttta  
 1440  
 tcgggtccaa tgggaagcgg aatgagagag agaataaggct ccaaaggcaa ccagatattt  
 1500  
 gtcagaaatc taccttttga cttgacttgg cagaaactaa aagagaaatt cagtcagtgt  
 1560  
 ggtcatgtaa tgtttgcaga aataaaaatg gagaatggaa agtcaaaagg ctgtggaaca  
 1620  
 gtcagatttg actccccaga atcagctgaa aaagcctgca gaataatgaa tggcataaaa  
 1680

atcagtggca gagaaattga tgttcgcttg gatcgtaatg cataatttca agccatgggt  
 1740  
 ggaacattcc tacatctggt ttgctgaatc tccatgtaaa agtcattttt ttaaagtaat  
 1800  
 attgtatgct tacaaaagct gtaaaaatga acttttataaa ctcccaccag cttttaacag  
 1860  
 gtataatggg aaaaatatac tgtaaatttt tggtaatctc aagtttgggt ttttaaagac  
 1920  
 agcaagtctg gtcattcagt ttaaataaat gggatatactg gtttttaatg aaataagcca  
 1980  
 tttt  
 1984

&lt;210&gt; 4824

&lt;211&gt; 547

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4824

Met	Glu	Asn	Asp	Glu	Ser	Ala	Lys	Glu	Glu	Lys	Ser	Asp	Leu	Lys	Glu
1				5				10					15		
Lys	Ser	Thr	Gly	Ser	Lys	Lys	Ala	Asn	Arg	Phe	His	Pro	Tyr	Ser	Lys
			20					25					30		
Asp	Lys	Asn	Ser	Gly	Thr	Gly	Glu	Lys	Lys	Gly	Pro	Asn	Arg	Asn	Arg
		35					40					45			
Val	Phe	Ile	Ser	Asn	Ile	Pro	Tyr	Asp	Met	Lys	Trp	Gln	Ala	Ile	Lys
	50					55				60					
Asp	Leu	Met	Arg	Glu	Lys	Val	Gly	Glu	Val	Thr	Tyr	Val	Glu	Leu	Phe
65					70					75					80
Lys	Asp	Ala	Glu	Gly	Lys	Ser	Arg	Gly	Cys	Gly	Val	Val	Glu	Phe	Lys
				85					90					95	
Asp	Glu	Glu	Phe	Val	Lys	Lys	Ala	Leu	Glu	Thr	Met	Asn	Lys	Tyr	Asp
			100					105					110		
Leu	Ser	Gly	Arg	Pro	Leu	Asn	Ile	Lys	Glu	Asp	Pro	Asp	Gly	Glu	Asn
		115					120					125			
Ala	Arg	Arg	Ala	Leu	Gln	Arg	Thr	Gly	Gly	Ser	Phe	Pro	Gly	Gly	His
	130					135					140				
Val	Pro	Asp	Met	Gly	Ser	Gly	Leu	Met	Asn	Leu	Pro	Pro	Ser	Ile	Leu
145					150					155					160
Asn	Asn	Pro	Asn	Ile	Pro	Pro	Glu	Val	Ile	Ser	Asn	Leu	Gln	Ala	Gly
			165						170					175	
Arg	Leu	Gly	Ser	Thr	Ile	Phe	Val	Ala	Asn	Leu	Asp	Phe	Lys	Val	Gly
		180						185					190		
Trp	Lys	Lys	Leu	Lys	Glu	Val	Phe	Ser	Ile	Ala	Gly	Thr	Val	Lys	Arg
	195						200					205			
Ala	Asp	Ile	Lys	Glu	Asp	Lys	Asp	Gly	Lys	Ser	Arg	Gly	Met	Gly	Thr
	210					215					220				
Val	Thr	Phe	Glu	Gln	Ala	Ile	Glu	Ala	Val	Gln	Ala	Ile	Ser	Met	Phe
225					230					235					240
Asn	Gly	Gln	Phe	Leu	Phe	Asp	Arg	Pro	Met	His	Val	Lys	Met	Asp	Asp
			245						250				255		
Lys	Ser	Val	Pro	His	Glu	Glu	Tyr	Arg	Ser	Pro	Asp	Gly	Lys	Thr	Pro
		260						265				270			
Gln	Leu	Pro	Arg	Gly	Leu	Gly	Gly	Ile	Gly	Met	Gly	Leu	Gly	Pro	Gly

275                      280                      285  
 Gly Gln Pro Ile Ser Ala Ser Gln Leu Asn Ile Gly Gly Val Met Gly  
 290                      295                      300  
 Asn Leu Gly Pro Gly Gly Met Gly Met Asp Gly Pro Gly Phe Gly Gly  
 305                      310                      315                      320  
 Met Asn Arg Ile Gly Gly Gly Ile Gly Phe Gly Gly Leu Glu Ala Met  
 325                      330                      335  
 Asn Ser Met Gly Gly Phe Gly Gly Val Gly Arg Met Gly Glu Leu Tyr  
 340                      345                      350  
 Arg Gly Ala Met Thr Ser Ser Met Glu Arg Asp Phe Gly Arg Gly Asp  
 355                      360                      365  
 Ile Gly Ile Asn Arg Ala Phe Gly Asp Ser Phe Gly Arg Leu Gly Ser  
 370                      375                      380  
 Ala Met Ile Gly Gly Ile Thr Gly Arg Ile Gly Ser Ser Asn Met Gly  
 385                      390                      395                      400  
 Pro Val Gly Ser Gly Ile Ser Gly Gly Met Gly Ser Met Asn Ser Val  
 405                      410                      415  
 Thr Gly Gly Met Gly Met Gly Leu Asp Arg Met Ser Ser Ser Phe Asp  
 420                      425                      430  
 Arg Met Gly Pro Gly Ile Gly Ala Ile Leu Glu Arg Ser Ile Asp Met  
 435                      440                      445  
 Asp Arg Gly Phe Leu Ser Gly Pro Met Gly Ser Gly Met Arg Glu Arg  
 450                      455                      460  
 Ile Gly Ser Lys Gly Asn Gln Ile Phe Val Arg Asn Leu Pro Phe Asp  
 465                      470                      475                      480  
 Leu Thr Trp Gln Lys Leu Lys Glu Lys Phe Ser Gln Cys Gly His Val  
 485                      490                      495  
 Met Phe Ala Glu Ile Lys Met Glu Asn Gly Lys Ser Lys Gly Cys Gly  
 500                      505                      510  
 Thr Val Arg Phe Asp Ser Pro Glu Ser Ala Glu Lys Ala Cys Arg Ile  
 515                      520                      525  
 Met Asn Gly Ile Lys Ile Ser Gly Arg Glu Ile Asp Val Arg Leu Asp  
 530                      535                      540  
 Arg Asn Ala  
 545

&lt;210&gt; 4825

&lt;211&gt; 2380

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4825

nnagagaatt cggcacgggt ggagaagcaa ctgcagcaag ctctggagga gggtaagcag  
 60  
 ggccggcggg gacctggggtc gtcgcgacca ggcagtgcag accggcttcg tcagcyccat  
 120  
 ccggcccttg gggcbkcagc tgggcgcccc gccggccgct gtctgcagcc ctttggagcg  
 180  
 cgtkctgggc tcgcccgcgc gctccccggc cggccccctc gcgccctccg cggccagcct  
 240  
 ctgcgtctcc tccacctcca cctccaccac ctattcctcg tcggcccgtc tcatgcccgg  
 300  
 caccatctgg tcgttctcgc acgnccgcgc gctcggggccg ggactggagc ccactctggg  
 360

gcaagggcct gggttgtmgt ggggtgcaccc ggatgggggtg ggcgtccaga tcgacaccat  
420  
cacgcccag atccgcgctc tctacaacgt gctggccaaa gtgaagcggg agcgggacga  
480  
gtacaagcgg aggtgggaag aggagtacac ggtgcggatc cagctgcaag accgtgtaaa  
540  
tgagctccag gaggaagccc aggaggctga tgccctgccag gaggagctgg cactgaagggt  
600  
ggaacagttg aaggctgagc tgggtggtctt caaggggctc atgagtaaca acctgtcggg  
660  
gctggacacc aagatccagg agaaagccat gaaggtggat atggacatct gccgccgcat  
720  
cgacatcacc gccaaactct gcgatgtggc tcagcagcgc aactgcgagg acatgatcca  
780  
gatgttccag aagaagctgg tcccatccat gggggggcgg aagcgggagc gcaaggctgc  
840  
cgtcaggag gagacctccc tgtcggagag tgagggggccc gccagcccga tggggatgag  
900  
gaggagagca cagccctcag catcaacgag gagatgcagc gcatgctcaa ccagctgagg  
960  
gagtatgatt ttgaggacga ctgtgacagc ctgacttggg aggagactga ggagacctg  
1020  
ctgctttggg aggatttctc aggetatgcc atggcagctg cagaggccca gggagagcag  
1080  
gaagatagcc tggagaagggt gattaaagat acggagtccc tgttcaaaac ccgggagaag  
1140  
gagtatcagg agaccattga ccagatagag ctggagtggg ccacggccaa gaacgacatg  
1200  
aaccggcacc tgcacgagta catggagatg tgcagcatga agcgcggcct ggacgtgcag  
1260  
atggagacct gccgccggct catcaccacg tctggagacc gaaagtctcc tgctttcact  
1320  
gcgggtcccgc ttagcgaccc gccgccggcg ccaagcgagg ctgaggactc cgatcgcgat  
1380  
gtctcatctg acagctccat gagatagaga cctgcctccc ccttgacccc gaggccctcg  
1440  
cagcaggag ctcagcgagg cagagggtgg ggctgcacag aggggaacat cagctgcagc  
1500  
tctgcaccag gccgggtccct ggggactggg gcgctcctcc ctcaggcttt ctcctcagt  
1560  
cttggttct ccagggtctt ggggtgtctg gagctaggct tggccctacc attctggggc  
1620  
catttccacc acagttgggg ctctcctgcc ttcacgcgtg ggtgtctgct acttccccat  
1680  
ctttaaaatg ctgccagagc gattgcggcc cctcaccttg tccacgtatc aggaatgtga  
1740  
atgtgggacc tttcctccat ccctgttgct cggagccagc tcaactgtctt ccacactggt  
1800  
gctaactggc ccaggcactg gagtggaata gaatgcagct ggaggctacg catggcctct  
1860  
gcagcacag cagctggaga gggcttctgt ccctgtcagc ggcagagggc gttggggctg  
1920  
gccggggcac cttgtccctg ctatgggtcca catgctcacg ctgtccacct gccagggtgga  
1980

gtgtatgtgg ctgtggccct ccctcgtgga ggtgccgtgc tttaaagagg ccttagtgcc  
 2040  
 cgggatgggc acagtgtttt gaagggaggt gggagctctt gctctcctgg tcaactgcaga  
 2100  
 atgacagaga aggtgaagct ccatgcatgt gtgcgcgggt gtatgtgcgc tcagggctctc  
 2160  
 tgtttaagta tcagctaaag atgtgcttcc tccgtgtctg tcatacactg agaccaacag  
 2220  
 gctacagtgt ccctgattct tggaaaagcc tggagaagct ggggagatgc ggttcacaat  
 2280  
 gcctcgggtat aggaggtgt gttgagctga cattcaaagt gattctttaa taataatgaa  
 2340  
 actggcgagt atttattgtg caaaaaaaaa aaaaaaaaaa  
 2380

<210> 4826  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 4826  
 Leu Glu Lys Val Ile Lys Asp Thr Glu Ser Leu Phe Lys Thr Arg Glu  
 1 5 10 15  
 Lys Glu Tyr Gln Glu Thr Ile Asp Gln Ile Glu Leu Glu Leu Ala Thr  
 20 25 30  
 Ala Lys Asn Asp Met Asn Arg His Leu His Glu Tyr Met Glu Met Cys  
 35 40 45  
 Ser Met Lys Arg Gly Leu Asp Val Gln Met Glu Thr Cys Arg Arg Leu  
 50 55 60  
 Ile Thr Gln Ser Gly Asp Arg Lys Ser Pro Ala Phe Thr Ala Val Pro  
 65 70 75 80  
 Leu Ser Asp Pro Pro Pro Pro Ser Glu Ala Glu Asp Ser Asp Arg  
 85 90 95  
 Asp Val Ser Ser Asp Ser Ser Met Arg  
 100 105

<210> 4827  
 <211> 6277  
 <212> DNA  
 <213> Homo sapiens

<400> 4827  
 ntaattaaca ccatcgtttc agcctaccac attgtagttt ggcaggccag gctctgcatt  
 60  
 ccaagggggc aggtgctggt tgctccagag gccttgagga gaaatctagg ggcagaccag  
 120  
 gtgtgtgctt cagctccaag tttctcttgc tttagcagca aaatgcggcc tctcatctct  
 180  
 accaaagcaa cagtggactc gtaccctcc ccacctcca agtagttcag gggatggggg  
 240  
 gggatgtgcg aataaaaaata aagatgagtc aagaccagca tcttcaaatt aacaaactgt  
 300  
 aattgttttc ccaaagatac atttttttca tacacatcca tcatacactg taaccaaaaa  
 360



aagcagtgtgta catgaaataa gagaaaataa attaaaaatc catagcatag gtaaggaggc  
420  
tctagtctgg agcacagctg agtttccagc aatataagga ggctcgaaag tttcttttat  
480  
aagaatgcct gctagcaagg gttccagcaa ggtggttggg tggctctgtaa gtcagtcttg  
540  
agtacttgaa acagttctgt gtttggtttt tttccttagc gtttagaata gccatcattg  
600  
tcctgcaata ggcagagcta tcacgtccag gaaaaatgag ggagggaacc acagaggcag  
660  
cgtgagatcc aaatacagca ttcaaaggta attggtccag tgggtgcctgg ggaggaggga  
720  
agggtgatac tccagggtta gccgtcttct tttgggggtg tgtaccagcc gtttttttct  
780  
gtggatctgc accaaggact tgtaggactg ctgtgctctt gtcagactgt attgagattt  
840  
gttggtctca aactgcactc gtgctttccc cttcaccagt gtggcactga tctgcatgat  
900  
gaccgattct attgagtagg cactgctcca gccctgtttg gtgagaagtt ccatgcagat  
960  
ggccccctcg ccagaacat accctccaga gaggactgga gacacaacc tgacaaatgg  
1020  
tgggtcaaag ggaaagtat ctttaaagga aaagttaagt agaatgaagt cggctccttc  
1080  
tttctctttg aggatctgga gatcggttg caaagcgctg tcctggtcaa ctttgaggag  
1140  
tttaacattc caatcataca gactgtcatt cagcagttcc actgaataaa tcctgtttt  
1200  
ataactctgt gatcgggtata tatccctgag ctctttcatc agccggtcag tggcctgcac  
1260  
cgagccagac actgcacat ttaaattggc ttgcctttga gtctttttaa tttctcttaa  
1320  
tattgccaaa ttttcttttt caattccttc atcctctgac ttttccac taataggctc  
1380  
ttcttccttc atctcatagt gatctaagtc ttctatatct tcagccatct cttcttcttc  
1440  
ttcctcttct tctgaagtca cttcttctgt tgtccattc tgaccctgg gtagtggtg  
1500  
atctagcatc tcaacatcca ggtgcttagg aagggttatat aaactgcaga gttcacatat  
1560  
caaccattc aattgctgac gaagcaaatt gttgttctta gtatcttcta gacgttccag  
1620  
aactgatgtc agatttgggt cttcagaatc cacaaccat atcgggtgaag aagatggata  
1680  
ggattccgtg atgttgagc gtagcggtgag tggcggcggc agcgagtgcg ggctgccctg  
1740  
ctgcggcacc aggaactggc agtgcagctc gtccagcttc caactgacga tgcggaatcg  
1800  
ctcgtgggtc ttgtcgaaga tggacgccag gaacttcagc tcggccttga gccctgacac  
1860  
ggacatcttc cctcatctc cggcgggagg ggcgcggaag gggagccggg cgcggaaggg  
1920  
gagccgggcc cggagccgcc gtcacggccg cgaccgccc gcgggcccgc ctgggcccgc  
1980

ctctccgcct cgctcgagcgc tgctggaaaa tggcgagggg gcgcggaagc ctcggcgctct  
2040  
gggagccccgc ggccggagaa gggctgcggg ttagggggcc ggcccccgcg gttcaggatt  
2100  
ccagaattgg aaataacggg agggaggacc tgggtccagct tcccttcctc aaataaggaa  
2160  
attgacacct ggcgtagaa ggggttttgc catgttcgct aggctggctc caaactcatg  
2220  
gattcaaggg gactgccccgc ctggacctcc caaagtactg agattagtag ctgtggagaa  
2280  
gaaacaatgg attccttaga ccatatgctg acagatcctc tggaaacttg tccgtgtgga  
2340  
gatggccatg gcacgcgcat catggaggat tgccctcctg gaggcaccag agttagtctg  
2400  
cccaggacc ttctggagga tcttgagatc ttctttgatg ttgtcagcct ctcaacatgg  
2460  
caggaagtgt taagtgatc tcaacgtgaa cacctccagc agtttctgcc ccagtttctc  
2520  
gaagacagtg ctgagcagca gaatgaactc atcttagcct tgttcagtgg ggagaacttc  
2580  
cgctttggaa accctctgca cattgcccag aagcttttcc gagacggaca ctttaacccc  
2640  
gaggtggtca agtaccggca gttatgcttc aagtcacagt acaagcgcta cctcaactcc  
2700  
cagcagcagt atttccatcg gctgctgaag caaattcttg cttcccggag tgatctgctg  
2760  
gagatggccc ggcgagtg gggcccccctt cccttccggc agaaacgccc ttcaccatcc  
2820  
cgcacacctg aggagcggga gtggcgagacc cagcagcgt acttgaaggt ctttaaggaa  
2880  
gtgaaagagg agtgtggtga cacagccctg tcatctgatg aagaggatct cagctcatgg  
2940  
cttccgagct ctccagcacg ttctcctagt cctgcggtgc ccctgcggtt ggtgcccaca  
3000  
ctttcaacca cggatatgaa aactgcagat aaagtagaac tgggggacag tgacctgaag  
3060  
ataatgttaa agaagcacca cgagaagcgg aaacatcagc cagatcaccg ggaccttttg  
3120  
acaggggacc tgactctcaa tgacatcatg actcgagtaa atgctggcag gaagggtctc  
3180  
ctggcagcct tatatgactt ggctgtcctt aaaaaaaagg ttaaggaaaa agaggaaaag  
3240  
aagaagaaga aaataaaaaac gatcaaatca gaggcagagg acctggccga gccgctaagc  
3300  
agtactgaag gggctgcacc tctctcacag gccccctctc cgctggcaat tctgctatc  
3360  
aagggaagagc cccttgaaga cctcaagcct tgccttggaa tcaatgaaat atcttccagc  
3420  
ttcttctctc ttctattaga gatcttgctg ctggagagtc aggttagcct tcctatgcta  
3480  
gaggagcgag ttttggattg gcagtcacg ccagccagct ccctcaacag ctggttctct  
3540  
gcggccccca actgggctga gttggtacta ccagccctgc agtatcttgc tggagaaagt  
3600

cgagctgttc cttccagttt ctctccattt gttgaattca aagagaaaac ccagcagtgg  
3660  
aagttgcttg gccaatccca agataatgaa aaggaattag ctgccctctt ccagctatgg  
3720  
ctagagacca aagatcaggc cttctgtaag caagaaaatg aagacagctc agatgccaca  
3780  
acacctgtcc ctcgggtaag aactgactat gtgggtgcgtc ccagcacggg ggaggagaaa  
3840  
cgggtttttt aggagcagga gcgttacagg tatagccaac cccataaggc gttcaccttt  
3900  
cgcctgcacg gctttgagtc tgtggtgggg ccagtgaagg gcgtgtttga caaggagacc  
3960  
tcgctcaaca aggctcggga gcactccctg ctgcgctccg accggcctgc ctacgtcacc  
4020  
attctgtctc ttgttcggga cgctgaggct cgactgccta atggagaagg cacacgggca  
4080  
gagatctgtg aactgcttaa ggactcccag tttcttgac cagatgtcac cagcactcag  
4140  
gtaaatacag tagtgagtgg tgactggat cggctacatt acgaaaaaga tccctgtgtg  
4200  
aaatacgaca ttggacgaaa gctgtggatc tacctgcac gtgaccggag tgaagaagag  
4260  
tttgagcgga ttcaccaagc acaagcagct gcagctaaag ccagaaaagc tcttcagcaa  
4320  
aaacccaagc ccccatccaa ggtgaagtcc agtagcaagg agagctccat aaaggctcct  
4380  
agcagtggcc cttctgagca gagccagatg agcctcagtg actccagtat gccaccacc  
4440  
ccagtccacac ctgtaacccc caccacacca gcattgcccg ccattcccat ctcccctcca  
4500  
cctgtatcgg cagtgaacaa aagcggccct tccacagtct cagaaccagc taagtctagc  
4560  
tcgggtgttc ttctggtgtc ttcaccaaca atgccacatc tgggaacaat gctttcccca  
4620  
gcttccagcc agactgcacc cagttctcag gctgccgcc gggtcgtgag ccactctggc  
4680  
tctgtggac tgtctcaggt gcgagtggg gccagccta gccttctgc tgttcccag  
4740  
cagtcgggag ggccggcaca gacattgcca cagatgccag caggaccgca gatccgggtt  
4800  
ccagccactg ccacacagac caaagtagtg cccagacag taatggccac tgtgccgctc  
4860  
aaagcgcaga ctacggcagc cactgtgcag cggcctggac ccgggcagac agggctcacg  
4920  
gtgacaagtc tccctgccac agccagccct gtgagtaagc cagccacgag ttctcctggg  
4980  
acctctgtc ccagtgcctc cacggctgcc gtcattcaaa atgtcacagg acagaacatc  
5040  
atcaagcagg tggcaatcac tgggcagctt ggtgtgaagc cccaaacagg caacagcatt  
5100  
ccactcacag ccactaactt ccgcatccag ggtaaggatg tattgcgtct gccgccctct  
5160  
tccatcacca cagatgcca gggccagacg gttctgcgaa tcaactccga catgatggcc  
5220

acattggcca agtcccaggt taccacagtc aaattgaccc aggacctctt cgggacagga  
 5280  
 ggcaacacta caggcaaagg catctctgcc accttacacg tcaacttccaa tccagtacat  
 5340  
 gcagctgata gccctgccaa ggccagttca gccagtgtcc cttcatccac tccaacaggt  
 5400  
 accactgtgg tcaaagtga ccttgacctc aagccaacag aagcctcaag ttcggctttt  
 5460  
 cgcttgatgc cagctcttgg cgtgagtgtg gctgaccaga agggaaaaag cacagtggcc  
 5520  
 tcttcagaag caaaaccagc tgccacgata cgcacgtgac agggactggg agtgatgcct  
 5580  
 cccaaagcag gccagaccat caccgttgca acccagccca agcaaggggc ctcgggtggc  
 5640  
 agtgggtctg gaactgtcca tacttcagcg gtgtccttac ccagtatgaa tgctgctgtg  
 5700  
 tccaagactg tagctgtggc ttctggggct gcaagcacc ccatcagcat cagcacagga  
 5760  
 gccccaccg tgccgcaggt cctgtcagc accacgggtg tgtccacgtc ccaggctggg  
 5820  
 aagttgcta cacggatcac agttcccctc tctgtgatca gccagccaat gaagggcaag  
 5880  
 agcgtggtca cagccccat catcaaaggc aaccttgag ccaacctcag tgggttgggc  
 5940  
 cgcaacatca tctcacaac tatgccagca ggactaagc tcattgctgg caataagcct  
 6000  
 gttagtttcc tcaactgtca gcagttgcag cagcttcagc agcaaggcca ggccacacag  
 6060  
 gtgcgcatcc agactgtccc tgcacccnat ctccaacagg gaacagcttc tggctcctcc  
 6120  
 aaagcagtct ccactgttgt tgtgactaca gctccgtctc ctaaacaggc acctgagcaa  
 6180  
 caatgattat gagagaggat gggcttccgt gaaagaccat gcctgggtctg tcctgggtga  
 6240  
 gaagggacca gggaggttgc atcattattc taagctt  
 6277

&lt;210&gt; 4828

&lt;211&gt; 1322

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4828

Met	Asp	Ser	Arg	Gly	Leu	Pro	Ala	Trp	Thr	Ser	Gln	Ser	Thr	Glu	Ile
1				5				10						15	
Ser	Thr	Cys	Gly	Glu	Glu	Thr	Met	Asp	Ser	Leu	Asp	His	Met	Leu	Thr
		20						25					30		
Asp	Pro	Leu	Glu	Leu	Gly	Pro	Cys	Gly	Asp	Gly	His	Gly	Thr	Arg	Ile
		35					40					45			
Met	Glu	Asp	Cys	Leu	Leu	Gly	Thr	Arg	Val	Ser	Leu	Pro	Glu	Asp	
		50				55				60					
Leu	Leu	Glu	Asp	Pro	Glu	Ile	Phe	Phe	Asp	Val	Val	Ser	Leu	Ser	Thr
65					70				75					80	
Trp	Gln	Glu	Val	Leu	Ser	Asp	Ser	Gln	Arg	Glu	His	Leu	Gln	Gln	Phe

				85					90					95		
Leu	Pro	Gln	Phe	Pro	Glu	Asp	Ser	Ala	Glu	Gln	Gln	Asn	Glu	Leu	Ile	
			100					105					110			
Leu	Ala	Leu	Phe	Ser	Gly	Glu	Asn	Phe	Arg	Phe	Gly	Asn	Pro	Leu	His	
		115					120					125				
Ile	Ala	Gln	Lys	Leu	Phe	Arg	Asp	Gly	His	Phe	Asn	Pro	Glu	Val	Val	
	130					135					140					
Lys	Tyr	Arg	Gln	Leu	Cys	Phe	Lys	Ser	Gln	Tyr	Lys	Arg	Tyr	Leu	Asn	
145					150					155					160	
Ser	Gln	Gln	Gln	Tyr	Phe	His	Arg	Leu	Leu	Lys	Gln	Ile	Leu	Ala	Ser	
				165					170					175		
Arg	Ser	Asp	Leu	Leu	Glu	Met	Ala	Arg	Arg	Ser	Gly	Pro	Ala	Leu	Pro	
			180					185					190			
Phe	Arg	Gln	Lys	Arg	Pro	Ser	Pro	Ser	Arg	Thr	Pro	Glu	Glu	Arg	Glu	
		195					200					205				
Trp	Arg	Thr	Gln	Gln	Arg	Tyr	Leu	Lys	Val	Leu	Arg	Glu	Val	Lys	Glu	
	210					215					220					
Glu	Cys	Gly	Asp	Thr	Ala	Leu	Ser	Ser	Asp	Glu	Glu	Asp	Leu	Ser	Ser	
225					230					235					240	
Trp	Leu	Pro	Ser	Ser	Pro	Ala	Arg	Ser	Pro	Ser	Pro	Ala	Val	Pro	Leu	
				245					250					255		
Arg	Val	Val	Pro	Thr	Leu	Ser	Thr	Thr	Asp	Met	Lys	Thr	Ala	Asp	Lys	
			260					265					270			
Val	Glu	Leu	Gly	Asp	Ser	Asp	Leu	Lys	Ile	Met	Leu	Lys	Lys	His	His	
		275					280					285				
Glu	Lys	Arg	Lys	His	Gln	Pro	Asp	His	Pro	Asp	Leu	Leu	Thr	Gly	Asp	
	290					295					300					
Leu	Thr	Leu	Asn	Asp	Ile	Met	Thr	Arg	Val	Asn	Ala	Gly	Arg	Lys	Gly	
305					310					315					320	
Ser	Leu	Ala	Ala	Leu	Tyr	Asp	Leu	Ala	Val	Leu	Lys	Lys	Lys	Val	Lys	
				325					330					335		
Glu	Lys	Glu	Glu	Lys	Lys	Lys	Lys	Lys	Ile	Lys	Thr	Ile	Lys	Ser	Glu	
			340					345					350			
Ala	Glu	Asp	Leu	Ala	Glu	Pro	Leu	Ser	Ser	Thr	Glu	Gly	Val	Ala	Pro	
		355					360					365				
Leu	Ser	Gln	Ala	Pro	Ser	Pro	Leu	Ala	Ile	Pro	Ala	Ile	Lys	Glu	Glu	
	370					375					380					
Pro	Leu	Glu	Asp	Leu	Lys	Pro	Cys	Leu	Gly	Ile	Asn	Glu	Ile	Ser	Ser	
385					390					395					400	
Ser	Phe	Phe	Ser	Leu	Leu	Leu	Glu	Ile	Leu	Leu	Leu	Glu	Ser	Gln	Ala	
				405					410					415		
Ser	Leu	Pro	Met	Leu	Glu	Glu	Arg	Val	Leu	Asp	Trp	Gln	Ser	Ser	Pro	
			420													

4010

```

945          950          955          960
Ile Pro Leu Thr Ala Thr Asn Phe Arg Ile Gln Gly Lys Asp Val Leu
          965          970          975
Arg Leu Pro Pro Ser Ser Ile Thr Thr Asp Ala Lys Gly Gln Thr Val
          980          985          990
Leu Arg Ile Thr Pro Asp Met Met Ala Thr Leu Ala Lys Ser Gln Val
          995          1000          1005
Thr Thr Val Lys Leu Thr Gln Asp Leu Phe Gly Thr Gly Gly Asn Thr
          1010          1015          1020
Thr Gly Lys Gly Ile Ser Ala Thr Leu His Val Thr Ser Asn Pro Val
          1025          1030          1035          1040
His Ala Ala Asp Ser Pro Ala Lys Ala Ser Ser Ala Ser Ala Pro Ser
          1045          1050          1055
Ser Thr Pro Thr Gly Thr Thr Val Val Lys Val Thr Pro Asp Leu Lys
          1060          1065          1070
Pro Thr Glu Ala Ser Ser Ser Ala Phe Arg Leu Met Pro Ala Leu Gly
          1075          1080          1085
Val Ser Val Ala Asp Gln Lys Gly Lys Ser Thr Val Ala Ser Ser Glu
          1090          1095          1100
Ala Lys Pro Ala Ala Thr Ile Arg Ile Val Gln Gly Leu Gly Val Met
          1105          1110          1115          1120
Pro Pro Lys Ala Gly Gln Thr Ile Thr Val Ala Thr His Ala Lys Gln
          1125          1130          1135
Gly Ala Ser Val Ala Ser Gly Ser Gly Thr Val His Thr Ser Ala Val
          1140          1145          1150
Ser Leu Pro Ser Met Asn Ala Ala Val Ser Lys Thr Val Ala Val Ala
          1155          1160          1165
Ser Gly Ala Ala Ser Thr Pro Ile Ser Ile Ser Thr Gly Ala Pro Thr
          1170          1175          1180
Val Arg Gln Val Pro Val Ser Thr Thr Val Val Ser Thr Ser Gln Ala
          1185          1190          1195          1200
Gly Lys Leu Pro Thr Arg Ile Thr Val Pro Leu Ser Val Ile Ser Gln
          1205          1210          1215
Pro Met Lys Gly Lys Ser Val Val Thr Ala Pro Ile Ile Lys Gly Asn
          1220          1225          1230
Leu Gly Ala Asn Leu Ser Gly Leu Gly Arg Asn Ile Ile Leu Thr Thr
          1235          1240          1245
Met Pro Ala Gly Thr Lys Leu Ile Ala Gly Asn Lys Pro Val Ser Phe
          1250          1255          1260
Leu Thr Ala Gln Gln Leu Gln Gln Leu Gln Gln Gln Gly Gln Ala Thr
          1265          1270          1275          1280
Gln Val Arg Ile Gln Thr Val Pro Ala Ser Xaa Leu Gln Gln Gly Thr
          1285          1290          1295
Ala Ser Gly Ser Ser Lys Ala Val Ser Thr Val Val Val Thr Thr Ala
          1300          1305          1310
Pro Ser Pro Lys Gln Ala Pro Glu Gln Gln
          1315          1320

```

<210> 4829  
 <211> 1605  
 <212> DNA  
 <213> Homo sapiens

<400> 4829

cccggagagc gaggacgacg tgaaggcgga gtggcgcccc gcgaggtagc gccaggcgag  
60  
ctggagacca tggccaaaat ggagggtgaaa acctcacttc tggacaatat gattggagtt  
120  
ggggatatgg ttctttttaga acctctcaat gaggagacct tcatcaacaa cctcaagaag  
180  
cgctttgacc acagtgaaat atacacttac attggaagtg tggttatata tgttaacca  
240  
tatcggtctt taccatttta ttcaccagag aaagtggag aatacaggaa cagaaatttt  
300  
tatgaactga gccctcacat ctttgccctt tcggatgaag catacagatc cctacgagat  
360  
caagataagg accaatgtat tctcattact ggggaaagtg gagcaggaaa aacagaggcc  
420  
agtaagcttg tcatgtccta tgtggcagct gtttgtggaa aaggagcaga agttaatcaa  
480  
gttaaagaac agcttttaca gtccaacccg gtccctggaag cttttggaaa tgccaaaact  
540  
gtaaggaatg acaactcctc tagatttggc aaatatatgg atattgaatt tgactttaaa  
600  
ggcgatccac taggaggagt aataagtaac tatcttttag agaaatctcg ggttgttaaa  
660  
cagccaagag gtgaaagaaa cttccatgtg ttctatcagc tgctctctgg tgcctctgaa  
720  
gagtcctca ataaacttaa gcttgagagg gatttcagca ggtataacta cctgagtctg  
780  
gattcggcca aagtgaatgg agtgatgat gcagcaaatt ttagaaccgt gcggaatgcc  
840  
atgcagattg tgggctttat ggatcatgaa gctgagtctg tcttggcggg ggtggcagca  
900  
gtgttgaaac tggggaacat tgagttcaag cccgaatctc gagtgaatgg tctagatgaa  
960  
agcaaaatca aagataaaaa tgagttaaaa gaaatttgtg aattgaccgg cattgatcaa  
1020  
tcagttctag aacgagcatt cagtttccga acagttgagg ccaaacagga gaaagtttca  
1080  
actacactga atgtggctca ggcttattat gcccgtagt ctctggctaa aaacctctac  
1140  
agcaggttgt tttcatgggt ggtaaatcga atcaatgaaa gcattaaggc acaaacaaaa  
1200  
gtgagaaaga aggtcatggg tgttctggac atttatggct ttgagatttt cgaggacaac  
1260  
agctttgagc agttcattat taattattgt aacgaaaagc tgcaacaaat cttcattgaa  
1320  
cttactctta aagaagagca ggaggagtat atacgggagg atatagaatg gactcacatt  
1380  
gactacttca ataatgctat ctttgtgac ctaatagaaa ataacacaaa tggaatcctg  
1440  
gccatggttg atgaagagt cctcagacct ggcacagtca ctgatgagac cttcttagaa  
1500  
aagctgaacc aagtatgtgc caccaccag cttttgaaa gcaggatgag caagtgtct  
1560  
cggttcctca atgacacgtc tctgcctcac agctgcttca ggatc  
1605



<210> 4830  
 <211> 512  
 <212> PRT  
 <213> Homo sapiens

<400> 4830

```

Met Ala Lys Met Glu Val Lys Thr Ser Leu Leu Asp Asn Met Ile Gly
 1          5          10          15
Val Gly Asp Met Val Leu Leu Glu Pro Leu Asn Glu Glu Thr Phe Ile
 20          25          30
Asn Asn Leu Lys Lys Arg Phe Asp His Ser Glu Ile Tyr Thr Tyr Ile
 35          40          45
Gly Ser Val Val Ile Ser Val Asn Pro Tyr Arg Ser Leu Pro Ile Tyr
 50          55          60
Ser Pro Glu Lys Val Glu Glu Tyr Arg Asn Arg Asn Phe Tyr Glu Leu
 65          70          75          80
Ser Pro His Ile Phe Ala Leu Ser Asp Glu Ala Tyr Arg Ser Leu Arg
 85          90          95
Asp Gln Asp Lys Asp Gln Cys Ile Leu Ile Thr Gly Glu Ser Gly Ala
100          105          110
Gly Lys Thr Glu Ala Ser Lys Leu Val Met Ser Tyr Val Ala Ala Val
115          120          125
Cys Gly Lys Gly Ala Glu Val Asn Gln Val Lys Glu Gln Leu Leu Gln
130          135          140
Ser Asn Pro Val Leu Glu Ala Phe Gly Asn Ala Lys Thr Val Arg Asn
145          150          155          160
Asp Asn Ser Ser Arg Phe Gly Lys Tyr Met Asp Ile Glu Phe Asp Phe
165          170          175
Lys Gly Asp Pro Leu Gly Gly Val Ile Ser Asn Tyr Leu Leu Glu Lys
180          185          190
Ser Arg Val Val Lys Gln Pro Arg Gly Glu Arg Asn Phe His Val Phe
195          200          205
Tyr Gln Leu Leu Ser Gly Ala Ser Glu Glu Leu Leu Asn Lys Leu Lys
210          215          220
Leu Glu Arg Asp Phe Ser Arg Tyr Asn Tyr Leu Ser Leu Asp Ser Ala
225          230          235          240
Lys Val Asn Gly Val Asp Asp Ala Ala Asn Phe Arg Thr Val Arg Asn
245          250          255
Ala Met Gln Ile Val Gly Phe Met Asp His Glu Ala Glu Ser Val Leu
260          265          270
Ala Val Val Ala Ala Val Leu Lys Leu Gly Asn Ile Glu Phe Lys Pro
275          280          285
Glu Ser Arg Val Asn Gly Leu Asp Glu Ser Lys Ile Lys Asp Lys Asn
290          295          300
Glu Leu Lys Glu Ile Cys Glu Leu Thr Gly Ile Asp Gln Ser Val Leu
305          310          315          320
Glu Arg Ala Phe Ser Phe Arg Thr Val Glu Ala Lys Gln Glu Lys Val
325          330          335
Ser Thr Thr Leu Asn Val Ala Gln Ala Tyr Tyr Ala Arg Asp Ala Leu
340          345          350
Ala Lys Asn Leu Tyr Ser Arg Leu Phe Ser Trp Leu Val Asn Arg Ile
355          360          365
Asn Glu Ser Ile Lys Ala Gln Thr Lys Val Arg Lys Lys Val Met Gly

```

370	375	380
Val Leu Asp Ile Tyr Gly Phe Glu Ile Phe Glu Asp Asn Ser Phe Glu		
385	390	395
Gln Phe Ile Ile Asn Tyr Cys Asn Glu Lys Leu Gln Gln Ile Phe Ile		400
	405	410
Glu Leu Thr Leu Lys Glu Glu Gln Glu Glu Tyr Ile Arg Glu Asp Ile		415
	420	425
Glu Trp Thr His Ile Asp Tyr Phe Asn Asn Ala Ile Ile Cys Asp Leu		430
	435	440
Ile Glu Asn Asn Thr Asn Gly Ile Leu Ala Met Leu Asp Glu Glu Cys		445
	450	455
Leu Arg Pro Gly Thr Val Thr Asp Glu Thr Phe Leu Glu Lys Leu Asn		460
465	470	475
Gln Val Cys Ala Thr His Gln His Phe Glu Ser Arg Met Ser Lys Cys		480
	485	490
Ser Arg Phe Leu Asn Asp Thr Ser Leu Pro His Ser Cys Phe Arg Ile		495
	500	505
		510

&lt;210&gt; 4831

&lt;211&gt; 578

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4831

cggacggtgg ccctcaaagg ccagtcacc aatgccgcca tcctgctggc gcccgtcagc  
 60  
 atgctgagct cagacttcag gccagcctg ccgctgcccc acttcaacaa gcacctgctg  
 120  
 ggcgcccagc acggggacga gccgcgccac gggggcctca ctctgcgcct gggcctccac  
 180  
 cagcagagcg tgctcggcgg ccaggaccag ctgcgcgtcc gtgtgacgga gctggaggac  
 240  
 gaggtgcgca acctgcgcaa gatcaatcgg gacctgttcg acttctccac gcgcttcac  
 300  
 acgcggccgg ccaagtgagg ccgggagacc ccggcccagag gcgcccaggc ctgagcccca  
 360  
 tgcctcccag caaccagggc ccgcgggtgt ggccccacc agcccaggcc tggactctcc  
 420  
 tcagttctgt gtcgtgttcg ggtttttcct ctgtgactgg gccgtcttgg tgtctcgtgg  
 480  
 cacgcgtcac agtggtgcta gtctgttttt aacaaaagag gatgaaaagc caaaaaaaaa  
 540  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaa  
 578

&lt;210&gt; 4832

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4832

Arg Thr Val Ala Leu Lys Gly Pro Val Thr Asn Ala Ala Ile Leu Leu
1 5 10 15
Ala Pro Val Ser Met Leu Ser Ser Asp Phe Arg Pro Ser Leu Pro Leu

			20						25						30			
Pro	His	Phe	Asn	Lys	His	Leu	Leu	Gly	Ala	Glu	His	Gly	Asp	Glu	Pro			
		35					40					45						
Arg	His	Gly	Gly	Leu	Thr	Leu	Arg	Leu	Gly	Leu	His	Gln	Gln	Ser	Val			
	50					55					60							
Leu	Gly	Gly	Gln	Asp	Gln	Leu	Arg	Val	Arg	Val	Thr	Glu	Leu	Glu	Asp			
65					70					75					80			
Glu	Val	Arg	Asn	Leu	Arg	Lys	Ile	Asn	Arg	Asp	Leu	Phe	Asp	Phe	Ser			
				85					90					95				
Thr	Arg	Phe	Ile	Thr	Arg	Pro	Ala	Lys										
			100					105										

```
<210> 4833
<211> 872
<212> DNA
<213> Homo sapiens
```

```

<4830> 4833
nnctggacag aatttttaaaa agcaatgaag ccagttcctt ggatatatcc acgggctttg
60
ctttgagaag gaactgagta ggcagtgaga agagtcgagt gaagcctggc ccgtgagtgc
120
ctcaacaact gagatgaacg tcgactcgct tgcaggcaag ttgtcactca gcagcgatct
180
gaactatatc ctgggttcca gaaaaggcag aggttcttac cgaaagcagg ggaggaagcc
240
gcagcccaag gaggtcgtca cttgccggga aggtgggctcg ggccaggctg cactcaaaac
300
ccgtgctctg tccacactgc tacggggcca gagccaagga agcttccact tcttccccc
360
gacagcccca acagcggcta cccaaggag ccagcagcct tgtgtcctgg gatccccagc
420
ccctgcagaa tgaccaccca ggatctgagc atcacagcca aactcatcaa tggaggtgta
480
gcagggctcg tgggggtgac ctgctgttc cccatcgact tggccaagac tcgcctgcag
540
aaccagcatg ggaaagccat gtacaaagga atgatcgact gcctgatgaa gacggctcgg
600
gcggagggct tcttcggcat gtaccgaggg gctgcagtga acctcactct ggtcactcca
660
gagaaggcca tcaagctggc ggccaacgac tttttccggc ggctgctcat ggaagatggg
720
atgcagcgga acctgaagat ggagatgctt gccgggtgtg gggctgggat gtgccaggtc
780
gtggtgacct gtcccatgga aatgctcaag attcagctgc aggcattgctg gacgcctggc
840
cgtccatcat cagggtcgg cctcagcacc ct
872

```

```
<210> 4834
<211> 147
<212> PRT
<213> Homo sapiens
```

&lt;400&gt; 4834

```

Met Thr His Gln Asp Leu Ser Ile Thr Ala Lys Leu Ile Asn Gly Gly
 1           5           10           15
Val Ala Gly Leu Val Gly Val Thr Cys Val Phe Pro Ile Asp Leu Ala
 20           25           30
Lys Thr Arg Leu Gln Asn Gln His Gly Lys Ala Met Tyr Lys Gly Met
 35           40           45
Ile Asp Cys Leu Met Lys Thr Ala Arg Ala Glu Gly Phe Phe Gly Met
 50           55           60
Tyr Arg Gly Ala Ala Val Asn Leu Thr Leu Val Thr Pro Glu Lys Ala
 65           70           75           80
Ile Lys Leu Ala Ala Asn Asp Phe Phe Arg Arg Leu Leu Met Glu Asp
 85           90           95
Gly Met Gln Arg Asn Leu Lys Met Glu Met Leu Ala Gly Cys Gly Ala
 100          105          110
Gly Met Cys Gln Val Val Val Thr Cys Pro Met Glu Met Leu Lys Ile
 115          120          125
Gln Leu Gln Ala Cys Trp Thr Pro Gly Arg Pro Ser Ser Gly Leu Gly
 130          135          140
Leu Ser Thr
145

```

&lt;210&gt; 4835

&lt;211&gt; 1846

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4835

```

nctcatttcc gaagtgcctt gacagccac cctgtgcgtg accctgtgca catgtaccag
60
ctgcacaaag ctttcgccc agctgaactg gaacgcacgt accaggagat ccaggagtta
120
cagtgggaga tccagaatac cagccatctg gccgttgatg gggaccgggc agctgcttgg
180
cccgtgggta ttccagcacc atcccgccc gctcccgtt ttgagggtgct gcgctgggac
240
tacttcacgg agcagcacgc tttctcctgc gccgatggct caccctcgctg cccactgcgt
300
ggggctgacc gggctgatgt ggccgatgtt ctggggacag ctctagagga gctgaaccgc
360
cgctaccacc cggccttgct gctccagaag cagcagctgg tgaatggcta ccgacgcttt
420
gatccggccc ggggtatgga atacacgctg gacttgcagc tggaggcact gacccccag
480
ggaggccgcc ggcccctcac tcgccgagtg cagctgctcc ggccgctgag ccgctggag
540
atcttgcttg tgccctatgt cactgaggcc tcacgtctca ctgtgctgct gcctctagct
600
gcggctgagc gtgacctggc ccctggcttc ttggaggcct ttgccactgc agcactggag
660
cctggatgat ctgcggcagc cctgaccctg ctgctactgt atgagccgcg ccaggccag
720
cgcgtggccc atgcagatgt cttcgcacct gtcaaggccc acgtggcaga gctggagcgg
780

```

cgtttccccg gtgcccgggt gccatggctc agtgtgcaga cagccgcacc ctcaccactg  
 840  
 cgcctcatgg atctactctc caagaagcac ccgctggaca cactgttctc gctggccggg  
 900  
 ccagacacgg tgctcacgcc tgacttcctg aaccgctgcc gcctgcatgc catctccggc  
 960  
 tggcaggcct tctttcccat gcatttccaa gccttccacc cagctgtggc cccaccacaa  
 1020  
 gggcctgggc ccccagagct ggggccgtga cactggccgc tttgatcgcc aggcagccag  
 1080  
 cgaggcctgc ttctacaact ccgactacgt ggcagcccgt gggcgccctgg gcgcagctca  
 1140  
 gaacaagaag aggagctgct ggagagcctg gatgtgtacg agctgttctc ccacttctcc  
 1200  
 agtctgcatg tgctgcgggc ggtggagcgg cgctgctgca gccgctaccg ggcccagacg  
 1260  
 tgcagcgcga ggctcagtga ggacctgtac caccgctgcc tccagagcgt gcttgagggc  
 1320  
 ctcggtctcc gaaccagct ggccatgcta ctctttgaac aggagcaggg caacagcacc  
 1380  
 tgaccccacc ctgtccccgt gggcccgctg cattggccac accccacccc acttctcccc  
 1440  
 caaaaccaga gccacctgcc agcctcgctg ggcagggctg gccgtagcca gacccaagc  
 1500  
 tggcccaactg gtccccctctc tggctctgtg ggtccctggg ctctggacaa gcactggggg  
 1560  
 acgtgcccc agagccaccc acttctcatc ccaaaccag tttccctgcc ccctgacgt  
 1620  
 gctgattcgg gctgtggcct ccacgtattt atgcagtaca gtctgcctga cgccagccct  
 1680  
 gcctctgggc cctgggggct gggctgtaga agagtgttg gggaaggagg gagctgagga  
 1740  
 gggggcatct cccaacttct cccttttga ccctgccgaa gctccctgcc ttaataaac  
 1800  
 tggccaagtg tggaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa  
 1846

&lt;210&gt; 4836

&lt;211&gt; 349

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4836

Xaa	His	Phe	Arg	Ser	Ala	Leu	Thr	Ala	His	Pro	Val	Arg	Asp	Pro	Val
1				5				10				15			
His	Met	Tyr	Gln	Leu	His	Lys	Ala	Phe	Ala	Arg	Ala	Glu	Leu	Glu	Arg
			20				25					30			
Thr	Tyr	Gln	Glu	Ile	Gln	Glu	Leu	Gln	Trp	Glu	Ile	Gln	Asn	Thr	Ser
		35				40					45				
His	Leu	Ala	Val	Asp	Gly	Asp	Arg	Ala	Ala	Ala	Trp	Pro	Val	Gly	Ile
	50				55					60					
Pro	Ala	Pro	Ser	Arg	Pro	Ala	Ser	Arg	Phe	Glu	Val	Leu	Arg	Trp	Asp
65				70					75			80			
Tyr	Phe	Thr	Glu	Gln	His	Ala	Phe	Ser	Cys	Ala	Asp	Gly	Ser	Pro	Arg

```
<210> 4837
<211> 906
<212> DNA
<213> Homo sapiens
```

4018

acgcatgccg acgacagtgc agccatggcc attgcagaga tgctcaaagt caatgagcac  
 480  
 atcaccaacg taaacgtcga gtccaacttc ataacgggaa aggggatcct ggccatcatg  
 540  
 agagctctcc agcacaacac ggtgctcacg gagctgcgtt tccataacca gaggcacatc  
 600  
 atgggcagcc aggtggaaat ggagattgtc aagctgctga aggagaacac gacgctgctg  
 660  
 aggctgggat accattttga actcccagga ccaagaatga gcatgacgag catttttgaca  
 720  
 agaaatatgg ataaacagag gcaaaaacgt ttgcaggagc aaaaacagca ggagggatac  
 780  
 gatggaggac ccaatcttag gaccaaagtc tggcaaagag gaacacctag cccttcccct  
 840  
 tatgtatctc ccaggcactc accgtgggtc tccccaaaac tcccctacgg agagacgaca  
 900  
 acgcgt  
 906

&lt;210&gt; 4838

&lt;211&gt; 302

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4838

Xaa	Gly	Glu	Glu	Glu	Glu	Val	Val	Ala	Ala	Phe	Gly	Lys	Lys	Glu	Ser
1				5				10						15	
Gln	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Ser	Asp	Glu	Gly	Glu	Arg	Thr	Ile
			20				25						30		
Glu	Thr	Ala	Lys	Gly	Ile	Asn	Gly	Thr	Val	Asn	Tyr	Asp	Ser	Val	Asn
		35				40						45			
Ser	Asp	Asn	Ser	Lys	Pro	Lys	Ile	Phe	Lys	Ser	Gln	Ile	Glu	Asn	Ile
	50					55					60				
Asn	Leu	Thr	Asn	Gly	Ser	Asn	Gly	Arg	Asn	Thr	Glu	Ser	Pro	Ala	Ala
65				70				75						80	
Ile	His	Pro	Cys	Gly	Asn	Pro	Thr	Val	Ile	Glu	Asp	Ala	Leu	Asp	Lys
			85					90						95	
Ile	Lys	Ser	Asn	Asp	Pro	Asp	Thr	Thr	Glu	Val	Asn	Leu	Asn	Asn	Ile
			100					105						110	
Glu	Asn	Ile	Thr	Thr	Gln	Thr	Leu	Thr	Arg	Phe	Ala	Glu	Ala	Leu	Lys
		115				120						125			
Asp	Asn	Thr	Val	Val	Lys	Thr	Phe	Ser	Leu	Ala	Asn	Thr	His	Ala	Asp
	130					135						140			
Asp	Ser	Ala	Ala	Met	Ala	Ile	Ala	Glu	Met	Leu	Lys	Val	Asn	Glu	His
145				150				155						160	
Ile	Thr	Asn	Val	Asn	Val	Glu	Ser	Asn	Phe	Ile	Thr	Gly	Lys	Gly	Ile
			165					170						175	
Leu	Ala	Ile	Met	Arg	Ala	Leu	Gln	His	Asn	Thr	Val	Leu	Thr	Glu	Leu
		180						185						190	
Arg	Phe	His	Asn	Gln	Arg	His	Ile	Met	Gly	Ser	Gln	Val	Glu	Met	Glu
	195					200						205			
Ile	Val	Lys	Leu	Leu	Lys	Glu	Asn	Thr	Thr	Leu	Leu	Arg	Leu	Gly	Tyr
	210					215						220			
His	Phe	Glu	Leu	Pro	Gly	Pro	Arg	Met	Ser	Met	Thr	Ser	Ile	Leu	Thr

225		230		235		240									
Arg	Asn	Met	Asp	Lys	Gln	Arg	Gln	Lys	Arg	Leu	Gln	Glu	Gln	Lys	Gln
				245				250						255	
Gln	Glu	Gly	Tyr	Asp	Gly	Gly	Pro	Asn	Leu	Arg	Thr	Lys	Val	Trp	Gln
			260					265					270		
Arg	Gly	Thr	Pro	Ser	Pro	Ser	Pro	Tyr	Val	Ser	Pro	Arg	His	Ser	Pro
		275						280					285		
Trp	Ser	Ser	Pro	Lys	Leu	Pro	Tyr	Gly	Glu	Thr	Thr	Thr	Arg		
	290					295					300				

&lt;210&gt; 4839

&lt;211&gt; 1313

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4839

```

nnggcgctca gggccccac aagaggtcga gggaatgttg tgggctgggg cacaccagca
60
cggcagaaac tggagaaagc gagagacgtc gccagggacc cagggaacctc tccctccagt
120
tcccggggcc cgcccggccc tgatggccac tcacgtata gcgccactc tgcctggggc
180
catcccgcgc cagcagtgtg gccccagcc cgggcgcctg aatgctctcc ctccggatcg
240
ctgctcgggt cccactttg gcgaccgntg ccccgagtc ctgcttcccc ggggcctgct
300
ctgtatcagg cgctgcgcc ttcaagggtg cccggccgc ctgccctccc caagagccga
360
gtttgcgctc ctcccgaat cgtttgagag aaggacaaac ttttggcagg atggaaatct
420
agatgagcct gtccggagca gaacaccct gattagccag gcccaccgcc atccacatct
480
gctcggcaaa gaaggaaggc agcttggtcc agacctgggt gagcagctgc agactgcctg
540
cctagaacag cctccttact ccagcctggc aggggaaggaa ggaacctgac ttgcttcgca
600
ggatctggaa gtcagccgg cagagctgag agccgcagtt gcatcctgga gcctgatgct
660
agaagcagct tccgtctttg gggtcttgct gcctcggcct ctgctctggt cagtttgctg
720
ttgtgttttt ctccccatg ttggggtggg ggggtacagg gaaataaaat gctttctccc
780
aggcccctaa tccttcccca tgcctccatc agcctcaaag ctgctgacag tcatgaactg
840
caccttccag ccctgcccat aagctactca aagcaaattc aaattctctt ctggccaggg
900
ggaagggcag atgctccctc ctctctcaag cctccctggc tcattgatcc attttgaggg
960
catttggggg tcaaagttga gaccagattg cttcagtttg tataaaatta gcatttctta
1020
tcacaccaag gccacacctg ttctctggcc tcacaaacca gtgaggatgt aaaggtttgt
1080
tgagggtggg gaacagaagt gaaatgagca atctgtcca tttagaagtc agtcgcttcg
1140

```



gctgttcatt ccactaatat ttatctagta cctattctgt gccaaagcatt gtctctacct  
 1200  
 cagtttgcca caaatatgaa aaaaaaaaaa ttcttggaac tgtgaggctt caatgtgttg  
 1260  
 tggaccaata tacaaataaa ccaatggaaa agaaaaaaaa aaaaaaaaaa aaa  
 1313

<210> 4840  
 <211> 66  
 <212> PRT  
 <213> Homo sapiens

<400> 4840  
 Xaa Ala Leu Arg Ala Pro Thr Arg Gly Arg Gly Asn Val Val Gly Trp  
 1 5 10 15  
 Gly Thr Pro Ala Arg Gln Lys Leu Glu Lys Ala Arg Asp Val Ala Arg  
 20 25 30  
 Asp Pro Gly Thr Ser Pro Ser Ser Pro Gly Pro Pro Gly Pro Asp  
 35 40 45  
 Gly His Ser Arg Tyr Ser Ala His Ser Val Leu Gly His Pro Ala Pro  
 50 55 60  
 Ala Val  
 65

<210> 4841  
 <211> 558  
 <212> DNA  
 <213> Homo sapiens

<400> 4841  
 acgcgtgcga gtgtgcggaac tcagtggacg acggcggcgg cggcgaaagc ggatgaagac  
 60  
 cccggagcca acttgtttcc gccgccgctg ccccgacccc ggatctgcat gtggaagtac  
 120  
 ctggacgtcc attccatgca ccagctggag aagaccacca atgctgagat gagggaggtg  
 180  
 ctggctgagc tgctggagct aggggtgtcct gagcagagcc tgaggggacgc catcacctg  
 240  
 gacctcttct gccacgcgct cattttctgc cgccagcagg gcttctcact ggagcagacg  
 300  
 tcagcggctt gtgccctgct ccaggatctt cacaaggctt gtattggcca catccacgct  
 360  
 ctccgagcct acatcaagac ccaagtgaac aaagagctgg agcagctcca ggggctggtg  
 420  
 gaggagcgct caaggccagc gaggaaaggc tcagcagcaa gttgactgca ctagagcggc  
 480  
 ccttccagct actccgggta aaggcaagag caagaccaag tgacccccaa cattttcccc  
 540  
 aataaaggctc tgggccag  
 558

<210> 4842  
 <211> 118  
 <212> PRT

<213> Homo sapiens

<400> 4842

```

Met Trp Lys Tyr Leu Asp Val His Ser Met His Gln Leu Glu Lys Thr
 1           5           10           15
Thr Asn Ala Glu Met Arg Glu Val Leu Ala Glu Leu Leu Glu Leu Gly
          20           25           30
Cys Pro Glu Gln Ser Leu Arg Asp Ala Ile Thr Leu Asp Leu Phe Cys
          35           40           45
His Ala Leu Ile Phe Cys Arg Gln Gln Gly Phe Ser Leu Glu Gln Thr
          50           55           60
Ser Ala Ala Cys Ala Leu Leu Gln Asp Leu His Lys Ala Cys Ile Gly
65           70           75           80
His Ile His Val Leu Arg Ala Tyr Ile Lys Thr Gln Val Asn Lys Glu
          85           90           95
Leu Glu Gln Leu Gln Gly Leu Val Glu Glu Arg Ser Arg Pro Ala Arg
          100          105          110
Lys Gly Ser Ala Ala Ser
          115

```

<210> 4843

<211> 6403

<212> DNA

<213> Homo sapiens

<400> 4843

```

ggcacgagct gtaggagcag gggcctagca agcgcccagc ggagcgaccc ctgcctggcc
60
gtggctagca tggccctac gctgttcag aagctcttca gcaagaggac cgggctgggc
120
gcgcccggcc gcgacgccg ggaccagat tgcgggttca gttggccttt accagagttt
180
gatccaagcc agattcgact gattgtatat caagactgtg aaagacgagg gagaaatgtt
240
ttgtttgact ccagtgttaa gagaagaaat gaggacatat cagtatcgga cttaaatact
300
atattattctt atcttcatgg aatggaaata ttatcaaate tcaggaaca tcagcttaga
360
ttaatgtctg caagagcacg ctatgagaga tacagtggca atcaggttct cttttgttca
420
gaaacgattg ccagatgttg gtatatccta ctttctggat ctgtgcttgt gaaaggctcc
480
atggctcttgc ctcttgcag ttttggttaag cagtttggag gaaaaagagg atgtgattgt
540
cttgatttag agccttcaga aatgattgtg gtagagaatg ccaaagataa tgaagatagt
600
attctacaaa gagaaattcc tgccagacaa tcccgaagaa gatttcggaa aattaactat
660
aaaggagagc gccaaacat tactgatgat gtggagggtta acagctatct ttctcttcca
720
gctgatctta ccaagatgca tctcacagaa aaccctcatc cacaggtgac tcatgtgtct
780
tctagtcagt ctggtttag cattgccagt gactctggaa gcagcagttt atctgatata
840

```

tatcaggcta cggagagtga ggtaggagat gtagatttga cacgtcttcc agaaggacct  
900  
gttgattctg aggatgacga agaggaagat gaagagattg atcgaacaga tccattgcag  
960  
gggcgagatc ttgttcgaga atgtcttgaa aaagaacctg cagacaaaac tgatgatgac  
1020  
attgaacaat tgctggagtt tatgcaccag ctccctgcat ttgcaaacat gaccatgtct  
1080  
gtaaggagag aactctgctc agtgatgatt tttgaagtgg tagagcaggc tggagctatt  
1140  
attcttgaag atgggcaaga gcttgactca tggatgttta ttttaaaccg cactgtggaa  
1200  
atcagtcac cagatggaaa agttgaaaat ttgtttatgg gaaatagttt tggaattact  
1260  
cccactctgg ataagcagta catgcatgga attgtcagga ctaaagtaga tgattgtcag  
1320  
tttgtctgca tagcccagca agattattgg agaattttta accatgtgga aaaaaatacc  
1380  
cataaagttg aggaagaggg agaaattggt atggtacatg agcatcgga actagaccgg  
1440  
agtggaaacca ggaaaggaca cattgtgatc aaggcaacac ctgagcgtct cataatgcat  
1500  
ttaatagaag aacattccat cgtggatcca acttatatag aagattttct attaacttac  
1560  
aggacatttc ttgaaagtcc tttggatggt gggatcaaac tattggaatg gtttaagatc  
1620  
gacagcttaa gagataaggt gacacggatt gtattattat gggtaaataa tcattttaat  
1680  
gattttgaag gtgaccctgc tatgactcga tttctagagg aatttgaaaa aaatctggaa  
1740  
gatacaaaga tgaatggtca tctccggtta ttgaatattg cctgtgctgc aaaggctaag  
1800  
tgagacagg ttgtgctgca aaaggcttcc cgcgagtccc ctctacaatt cagccttaat  
1860  
ggagggagtg agaagggtt tggatatttt gttgaaggag tagaacctgg tagcaaagct  
1920  
gctgattcag gactgaaacg tggatgacag attatggaag taaatggaca aaactttgag  
1980  
aatattacat ttatgaaagc cgttgaaatt ttgaggaata atactcatct tgcacttact  
2040  
gtgaagacca acatttttgt gttcaaagag ttacttttta ggactgaaca agagaaatct  
2100  
ggtgttcctc atattcccaa aattgctgaa aaaaaaagta atcgccattc tatccagcat  
2160  
gtgccaggag atattgaaca gacatcacag gagaaaggaa gtaagaaagt taaagcaaat  
2220  
actgtttcag gtggaagaaa caaatcagg aagattttgg ataaaacacg atttagtacc  
2280  
ttgcctccaa agctatttag tgatggaggc ctaagccaat cacaagatga cagcattgtg  
2340  
ggaacaaggc actgtaggca tagtctggct ataatgcca tccctggaac actctcatcc  
2400  
agcagccctg atctctgca gcctaccacc agtatgttgg atttttccaa tccttcagat  
2460

atccctgata aagttataag agttttcaaa gtggatcagc aaagttgcta cattatcatc  
2520  
agtaaagaca ccacagctaa agaagtagtt tttcatgctg ttcatagaatt tggtttgacc  
2580  
ggtgcatccg acacatatc tctctgtgaa gtttctgtta ctcttgaggg tgcataaaaa  
2640  
cagagaagac ttccagatca gttctccaaa ttagctgata gaattcaact caatggaagg  
2700  
tattacttaa aaaataacat ggaaacagaa accttatgtt cagatgaaga tgctcaagaa  
2760  
ctagttaagg aaagccagct atccatgctg cagctcagta ccattgaggt ggccaccag  
2820  
ctgtcaatga gggactttga tttgtttcgt aatattgaac cgactgagta catcgatgac  
2880  
ctttttaagt taaattccaa aacaggaaat actcatttga agaggtttga ggacattgta  
2940  
aaccaagaga cattctgggt tgctcagaa attttaactg aagcaaatca gctcaaacga  
3000  
atgaagatta ttaagcattt tattaaaatt gcacttcatt gtcgagaatg taagaacttc  
3060  
aattccatgt ttgcaataat aagtggcttg aacctggcat ctgtagcaag actcagagga  
3120  
acttgggaaa agttaccaag caaatcagag aaacatcttc aagatctaca agacattttt  
3180  
gatccatcta gaaacatggc aaagtataga aatattctta gtagtcaaag tatgcagcct  
3240  
ccaattattc cactcttccc tgttgtcaag aaagatatga catttctaca tgaaggaaat  
3300  
gactccaaag tagatggttt agtaaacctt gagaagttaa gaatgatttc caaggaaatc  
3360  
cgccaagttg ttcgaatgac ttctgctaac atggaccag ctatgatgtt tcgacagagg  
3420  
tcaactgagtc aaggaagcac aaattcaaac atgctggatg ttcagggagg tgctcacaaa  
3480  
aaaagggcac gccgcagctc tctgcttaat gccaagaagc tatatgagga tgcccaaag  
3540  
gcaaggaagg tgaagcagta tctttccagt ctcgatgtag agacagatga ggagaagttc  
3600  
cagatgatgt cattacagtg ggagcctgca tatggtacct tgaccaagaa tttaagttag  
3660  
aaaagatcag ccaagnnatc atctgaaatg tctccagtgc ctatgaggtc agctggccaa  
3720  
acaactaaag ccacttgca tcaacccac agagtaagcc aggtgcttca ggtgccagct  
3780  
gttaatttgc accccatcag gaagaaggga caaacaaaag accctgcact gaatacaagt  
3840  
ttacctcaga aagttttagg aacaactgaa gaaataagt gtaagaagca tacagaagac  
3900  
actatttctg tggcgtcatc ttacattct agtcctcctg catctcctca aggtccct  
3960  
cacaaggtt acacacttat tccatcagct aaatctgaca acttgctga ctccagccat  
4020  
agtgaattt cttcacggtc cagcatcgtg agcaattgtt ctgttgactc catgtctgca  
4080

gctctacagg atgaacggtg ttcctctcag gccctggcag tccctgaatc cactggggca  
4140  
ttggaaaaga cagagcacgc ttcagggata ggagatcata gtcaacatgg ccctgggtgg  
4200  
acactcttga agccatctct aatcaagtgt ttagctgtct catcgtctgt gagcaatgaa  
4260  
gagatttctc aagagcatat cattatagaa gcagctgaca gtggtcgtgg aagttggact  
4320  
tcgtgttcaa gcagctccca tgacaacttc caaagccttc caaacccaaa aagctgggat  
4380  
tttttgaact cttacagaca taccatttg gatgacccca ttgctgaagt tgaaccact  
4440  
gactctgagc cctattcctg ttctaaaagc tgctctagaa cttgtgggca gtgtaaagga  
4500  
agcctagaga gaaagagttg gacctcctcc agttctctgt ctgacacgta tgaaccaaac  
4560  
tatgggacag ttaaacggag agtattggag agcaccacag ctgagtcac tgaaggcttg  
4620  
gaccccaagg atgccactga cccagtttat aaaactgtca cttcaagtac agaaaagggc  
4680  
ttgattgtgt actgtgtcac ctcaccaag aaggacgata ggtataggga gccacctccc  
4740  
actcctccag gatatttggg gatttcttta gcggacctaa aggaaggacc ccacacacac  
4800  
ctaaaacctc cagattatag tgtggcagtg cagaggtcaa agatgatgca taacagcctc  
4860  
tctagactgc caccagcttc tctcagtagc aacctcgagg cctgtgttcc atcgaagatt  
4920  
gtaactcagc ctcagaggca taatttgcag ccattccatc ctaaactagg agatgtgact  
4980  
gatgcagata gcgaagcaga tgaaaatgaa caagtttcag cagtctagcc tttggatgac  
5040  
ctatttgaaa accactgaaa gtcgtggagg aatgggcaag aaccacctca tgattctgca  
5100  
ggccattgct aacgaacagc tcattgctac aaccagtcca gaggttttat tccctctact  
5160  
ccgagcaatg aaatagacct gagttatgct tcctttcatt taatttctgc agataaatag  
5220  
tttcttgagc aatggatgct atgcctggat accagtctcc actttgcacg ccggaactgc  
5280  
cttgggacca cagttacaga aaaaatgtaa actcagagtg atccttgtgt atattgctat  
5340  
agatttttct ttaacaagct attttaaaga taatggcatt attatttcca agccatagct  
5400  
tgggctgaag gacaaattga aattgtctgc caataccaag gatattctta tatatttgaa  
5460  
aaataactta ttatttgaat tgttgtggtt ttgtttgtat ttgagagctc ttgttagctg  
5520  
atattcatgt ttgaggtcat aaaattgtct ctggtctgac caaacagaag tcattcttac  
5580  
agaggtgata tgcttgatct acacagagat gtgacttgat ctgtagcacc aatgcaatgt  
5640  
aggtctcagt ttgagagaaa taggaagccc tttgcagttg aggtgttagg aacctgctgg  
5700

tcatgggtgtg gaaggccaaa tgaagctgcc acagggtttc ttgtcagtcc tttgggaaat  
 5760  
 gggaggggagt agtttgggga ggaggggtggg aaccctaatt tccacagaat gaaattttga  
 5820  
 tgttaaataga catgtatata aattcttctt taagtgaag ttatgctgca tcgaattgta  
 5880  
 actgaaagta tagatccaac aaatagagac tgggttctag agagttctgg tctatagaaa  
 5940  
 cccaaaacta aaatctctca taactcaagt atggaatact ttttttaaag aaattcttat  
 6000  
 catgggtgtt gtaataatga agacgaattt gactttatgc agtggtctgc agcatgcctc  
 6060  
 cccacatct catagcacca ggttgtgtct gacctgacat accctgcagc tctcagctgg  
 6120  
 ctgcagtaac attttgtggg agaaagagga gctggagtta cagaaatgat tgtctcttgg  
 6180  
 ttctcagttt ttagcccttg agaggacata cttttccagc ctcatgggta tggcactctt  
 6240  
 aattaaaatt tcagtgactg tttactggat gaggcagatt tttcacattt ttgcaaatta  
 6300  
 aatatatttt atatataatta agtttaattt tttcagtttt tttaatgtaa aagcaagtga  
 6360  
 aattttaata aacttctgta attaccaaaa aaaaaaaaaa aaa  
 6403

&lt;210&gt; 4844

&lt;211&gt; 1675

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4844

Gly	Thr	Ser	Cys	Arg	Ser	Arg	Gly	Leu	Ala	Ser	Ala	Gln	Arg	Ser	Asp
1				5					10					15	
Pro	Cys	Leu	Ala	Val	Ala	Ser	Met	Ala	Pro	Thr	Leu	Phe	Gln	Lys	Leu
			20					25					30		
Phe	Ser	Lys	Arg	Thr	Gly	Leu	Gly	Ala	Pro	Gly	Arg	Asp	Ala	Arg	Asp
		35				40					45				
Pro	Asp	Cys	Gly	Phe	Ser	Trp	Pro	Leu	Pro	Glu	Phe	Asp	Pro	Ser	Gln
	50					55				60					
Ile	Arg	Leu	Ile	Val	Tyr	Gln	Asp	Cys	Glu	Arg	Arg	Gly	Arg	Asn	Val
65					70				75					80	
Leu	Phe	Asp	Ser	Ser	Val	Lys	Arg	Arg	Asn	Glu	Asp	Ile	Ser	Val	Ser
				85					90					95	
Asp	Leu	Asn	Thr	Ile	Tyr	Ser	Tyr	Leu	His	Gly	Met	Glu	Ile	Leu	Ser
		100						105					110		
Asn	Leu	Arg	Glu	His	Gln	Leu	Arg	Leu	Met	Ser	Ala	Arg	Ala	Arg	Tyr
		115					120					125			
Glu	Arg	Tyr	Ser	Gly	Asn	Gln	Val	Leu	Phe	Cys	Ser	Glu	Thr	Ile	Ala
	130					135					140				
Arg	Cys	Trp	Tyr	Ile	Leu	Leu	Ser	Gly	Ser	Val	Leu	Val	Lys	Gly	Ser
145					150					155					160
Met	Val	Leu	Pro	Pro	Cys	Ser	Phe	Gly	Lys	Gln	Phe	Gly	Gly	Lys	Arg
				165					170					175	
Gly	Cys	Asp	Cys	Leu	Val	Leu	Glu	Pro	Ser	Glu	Met	Ile	Val	Val	Glu

												180				185				190				
Asn	Ala	Lys		Asp	Asn	Glu	Asp	Ser	Ile	Leu	Gln	Arg	Glu	Ile	Pro	Ala								
												195				200				205				
Arg	Gln	Ser	Arg	Arg	Arg		Phe	Arg	Lys	Ile	Asn	Tyr	Lys	Gly	Glu	Arg								
												210				215				220				
Gln	Thr	Ile	Thr	Asp	Asp	Val	Glu	Val	Asn	Ser	Tyr	Leu	Ser	Leu	Pro									
225													230				235				240			
Ala	Asp	Leu	Thr	Lys	Met	His	Leu	Thr	Glu	Asn	Pro	His	Pro	Gln	Val									
												245				250				255				
Thr	His	Val	Ser	Ser	Ser	Gln	Ser		Gly	Cys	Ser	Ile	Ala	Ser	Asp	Ser								
												260				265				270				
Gly	Ser	Ser	Ser	Leu	Ser	Asp	Ile	Tyr	Gln	Ala	Thr	Glu	Ser	Glu	Val									
												275				280				285				
Gly	Asp	Val	Asp	Leu	Thr	Arg	Leu	Pro	Glu	Gly	Pro	Val	Asp	Ser	Glu									
												290				295				300				
Asp	Asp	Glu	Glu	Glu	Asp	Glu	Glu	Ile	Asp	Arg	Thr	Asp	Pro	Leu	Gln									
305													310				315				320			
Gly	Arg	Asp	Leu	Val	Arg	Glu	Cys	Leu	Glu	Lys	Glu	Pro	Ala	Asp	Lys									
												325				330				335				
Thr	Asp	Asp	Asp	Ile	Glu	Gln	Leu	Leu	Glu	Phe	Met	His	Gln	Leu	Pro									
												340				345				350				
Ala	Phe	Ala	Asn	Met	Thr	Met	Ser	Val	Arg	Arg	Glu	Leu	Cys	Ser	Val									
												355				360				365				
Met	Ile	Phe	Glu	Val	Val	Glu	Gln	Ala	Gly	Ala	Ile	Ile	Leu	Glu	Asp									
												370				375				380				
Gly	Gln	Glu	Leu	Asp	Ser	Trp	Tyr	Val	Ile	Leu	Asn	Gly	Thr	Val	Glu									
385													390				395				400			
Ile	Ser	His	Pro	Asp	Gly	Lys	Val	Glu	Asn	Leu	Phe	Met	Gly	Asn	Ser									
												405				410				415				
Phe	Gly	Ile	Thr	Pro	Thr	Leu	Asp	Lys	Gln	Tyr	Met	His	Gly	Ile	Val									
												420				425				430				
Arg	Thr	Lys	Val	Asp	Asp	Cys	Gln	Phe	Val	Cys	Ile	Ala	Gln	Gln	Asp									
												435				440				445				
Tyr	Trp	Arg	Ile	Leu	Asn	His	Val	Glu	Lys	Asn	Thr	His	Lys	Val	Glu									
												450				455				460				
Glu	Glu	Gly	Glu	Ile	Val	Met	Val	His	Glu	His	Arg	Glu	Leu	Asp	Arg									
465													470				475				480			
Ser	Gly	Thr	Arg	Lys	Gly	His	Ile	Val	Ile	Lys	Ala	Thr	Pro	Glu	Arg									
												485				490				495				
Leu	Ile	Met	His	Leu	Ile	Glu	Glu	His	Ser	Ile	Val	Asp	Pro	Thr	Tyr									
												500				505				510				
Ile	Glu	Asp	Phe	Leu	Leu	Thr	Tyr	Arg	Thr	Phe	Leu	Glu	Ser	Pro	Leu									
												515				520				525				
Asp	Val	Gly	Ile	Lys	Leu	Leu	Glu	Trp	Phe	Lys	Ile	Asp	Ser	Leu	Arg									
												530				535				540				
Asp	Lys	Val	Thr	Arg	Ile	Val	Leu	Leu	Trp	Val	Asn	Asn	His	Phe	Asn									
545													550				555				560			
Asp	Phe	Glu	Gly	Asp	Pro	Ala	Met	Thr	Arg	Phe	Leu	Glu	Glu	Phe	Glu									
												565				570				575				
Lys	Asn	Leu	Glu	Asp	Thr	Lys</																		

610	615	620
Lys Gly Phe Gly Ile Phe Val Glu Gly Val Glu Pro Gly Ser Lys Ala		
625	630	635
Ala Asp Ser Gly Leu Lys Arg Gly Asp Gln Ile Met Glu Val Asn Gly		640
	645	650
Gln Asn Phe Glu Asn Ile Thr Phe Met Lys Ala Val Glu Ile Leu Arg		655
	660	665
Asn Asn Thr His Leu Ala Leu Thr Val Lys Thr Asn Ile Phe Val Phe		670
	675	680
Lys Glu Leu Leu Phe Arg Thr Glu Gln Glu Lys Ser Gly Val Pro His		685
	690	695
Ile Pro Lys Ile Ala Glu Lys Lys Ser Asn Arg His Ser Ile Gln His		700
705	710	715
Val Pro Gly Asp Ile Glu Gln Thr Ser Gln Glu Lys Gly Ser Lys Lys		720
	725	730
Val Lys Ala Asn Thr Val Ser Gly Gly Arg Asn Lys Ile Arg Lys Ile		735
	740	745
Leu Asp Lys Thr Arg Phe Ser Ile Leu Pro Pro Lys Leu Phe Ser Asp		750
	755	760
Gly Gly Leu Ser Gln Ser Gln Asp Asp Ser Ile Val Gly Thr Arg His		765
770	775	780
Cys Arg His Ser Leu Ala Ile Met Pro Ile Pro Gly Thr Leu Ser Ser		785
	790	795
Ser Ser Pro Asp Leu Leu Gln Pro Thr Thr Ser Met Leu Asp Phe Ser		800
	805	810
Asn Pro Ser Asp Ile Pro Asp Gln Val Ile Arg Val Phe Lys Val Asp		815
	820	825
Gln Gln Ser Cys Tyr Ile Ile Ile Ser Lys Asp Thr Thr Ala Lys Glu		830
	835	840
Val Val Phe His Ala Val His Glu Phe Gly Leu Thr Gly Ala Ser Asp		845
	850	855
Thr Tyr Ser Leu Cys Glu Val Ser Val Thr Pro Glu Gly Val Ile Lys		860
865	870	875
Gln Arg Arg Leu Pro Asp Gln Phe Ser Lys Leu Ala Asp Arg Ile Gln		880
	885	890
Leu Asn Gly Arg Tyr Tyr Leu Lys Asn Asn Met Glu Thr Glu Thr Leu		895
	900	905
Cys Ser Asp Glu Asp Ala Gln Glu Leu Val Lys Glu Ser Gln Leu Ser		910
	915	920
Met Leu Gln Leu Ser Thr Ile Glu Val Ala Thr Gln Leu Ser Met Arg		925
	930	935
Asp Phe Asp Leu Phe Arg Asn Ile Glu Pro Thr Glu Tyr Ile Asp Asp		940
945	950	955
Leu Phe Lys Leu Asn Ser Lys Thr Gly Asn Thr His Leu Lys Arg Phe		960
	965	970
Glu Asp Ile Val Asn Gln Glu Thr Phe Trp Val Ala Ser Glu Ile Leu		975
	980	985
Thr Glu Ala Asn Gln Leu Lys Arg Met Lys Ile Ile Lys His Phe Ile		990
	995	1000
Lys Ile Ala Leu His Cys Arg Glu Cys Lys Asn Phe Asn Ser Met Phe		1005
	1010	1015
Ala Ile Ile Ser Gly Leu Asn Leu Ala Ser Val Ala Arg Leu Arg Gly		1020
1025	1030	1035
Thr Trp Glu Lys Leu Pro Ser Lys Tyr Glu Lys His Leu Gln Asp Leu		1040



1045 1050 1055  
 Gln Asp Ile Phe Asp Pro Ser Arg Asn Met Ala Lys Tyr Arg Asn Ile  
 1060 1065 1070  
 Leu Ser Ser Gln Ser Met Gln Pro Pro Ile Ile Pro Leu Phe Pro Val  
 1075 1080 1085  
 Val Lys Lys Asp Met Thr Phe Leu His Glu Gly Asn Asp Ser Lys Val  
 1090 1095 1100  
 Asp Gly Leu Val Asn Phe Glu Lys Leu Arg Met Ile Ser Lys Glu Ile  
 1105 1110 1115 1120  
 Arg Gln Val Val Arg Met Thr Ser Ala Asn Met Asp Pro Ala Met Met  
 1125 1130 1135  
 Phe Arg Gln Arg Ser Leu Ser Gln Gly Ser Thr Asn Ser Asn Met Leu  
 1140 1145 1150  
 Asp Val Gln Gly Gly Ala His Lys Lys Arg Ala Arg Arg Ser Ser Leu  
 1155 1160 1165  
 Leu Asn Ala Lys Lys Leu Tyr Glu Asp Ala Gln Met Ala Arg Lys Val  
 1170 1175 1180  
 Lys Gln Tyr Leu Ser Ser Leu Asp Val Glu Thr Asp Glu Glu Lys Phe  
 1185 1190 1195 1200  
 Gln Met Met Ser Leu Gln Trp Glu Pro Ala Tyr Gly Thr Leu Thr Lys  
 1205 1210 1215  
 Asn Leu Ser Glu Lys Arg Ser Ala Lys Xaa Ser Ser Glu Met Ser Pro  
 1220 1225 1230  
 Val Pro Met Arg Ser Ala Gly Gln Thr Thr Lys Ala His Leu His Gln  
 1235 1240 1245  
 Pro His Arg Val Ser Gln Val Leu Gln Val Pro Ala Val Asn Leu His  
 1250 1255 1260  
 Pro Ile Arg Lys Lys Gly Gln Thr Lys Asp Pro Ala Leu Asn Thr Ser  
 1265 1270 1275 1280  
 Leu Pro Gln Lys Val Leu Gly Thr Thr Glu Glu Ile Ser Gly Lys Lys  
 1285 1290 1295  
 His Thr Glu Asp Thr Ile Ser Val Ala Ser Ser Leu His Ser Ser Pro  
 1300 1305 1310  
 Pro Ala Ser Pro Gln Gly Ser Pro His Lys Gly Tyr Thr Leu Ile Pro  
 1315 1320 1325  
 Ser Ala Lys Ser Asp Asn Leu Ser Asp Ser Ser His Ser Glu Ile Ser  
 1330 1335 1340  
 Ser Arg Ser Ser Ile Val Ser Asn Cys Ser Val Asp Ser Met Ser Ala  
 1345 1350 1355 1360  
 Ala Leu Gln Asp Glu Arg Cys Ser Ser Gln Ala Leu Ala Val Pro Glu  
 1365 1370 1375  
 Ser Thr Gly Ala Leu Glu Lys Thr Glu His Ala Ser Gly Ile Gly Asp  
 1380 1385 1390  
 His Ser Gln His Gly Pro Gly Trp Thr Leu Leu Lys Pro Ser Leu Ile  
 1395 1400 1405  
 Lys Cys Leu Ala Val Ser Ser Ser Val Ser Asn Glu Glu Ile Ser Gln  
 1410 1415 1420  
 Glu His Ile Ile Ile Glu Ala Ala Asp Ser Gly Arg Gly Ser Trp Thr  
 1425 1430 1435 1440  
 Ser Cys Ser Ser Ser Ser His Asp Asn Phe Gln Ser Leu Pro Asn Pro  
 1445 1450 1455  
 Lys Ser Trp Asp Phe Leu Asn Ser Tyr Arg His Thr His Leu Asp Asp  
 1460 1465 1470  
 Pro Ile Ala Glu Val Glu Pro Thr Asp Ser Glu Pro Tyr Ser Cys Ser

1475	1480	1485
Lys Ser Cys Ser Arg Thr Cys Gly Gln Cys Lys Gly Ser Leu Glu Arg		
1490	1495	1500
Lys Ser Trp Thr Ser Ser Ser Leu Ser Asp Thr Tyr Glu Pro Asn		
1505	1510	1515
Tyr Gly Thr Val Lys Arg Arg Val Leu Glu Ser Thr Pro Ala Glu Ser		
1525	1530	1535
Ser Glu Gly Leu Asp Pro Lys Asp Ala Thr Asp Pro Val Tyr Lys Thr		
1540	1545	1550
Val Thr Ser Ser Thr Glu Lys Gly Leu Ile Val Tyr Cys Val Thr Ser		
1555	1560	1565
Pro Lys Lys Asp Asp Arg Tyr Arg Glu Pro Pro Pro Thr Pro Pro Gly		
1570	1575	1580
Tyr Leu Gly Ile Ser Leu Ala Asp Leu Lys Glu Gly Pro His Thr His		
1585	1590	1595
Leu Lys Pro Pro Asp Tyr Ser Val Ala Val Gln Arg Ser Lys Met Met		
1605	1610	1615
His Asn Ser Leu Ser Arg Leu Pro Pro Ala Ser Leu Ser Ser Asn Leu		
1620	1625	1630
Glu Ala Cys Val Pro Ser Lys Ile Val Thr Gln Pro Gln Arg His Asn		
1635	1640	1645
Leu Gln Pro Phe His Pro Lys Leu Gly Asp Val Thr Asp Ala Asp Ser		
1650	1655	1660
Glu Ala Asp Glu Asn Glu Gln Val Ser Ala Val		
1665	1670	1675

<210> 4845  
 <211> 3286  
 <212> DNA  
 <213> Homo sapiens

<400> 4845  
 nccgccgccc gggcccccg catgcagccc cggctgcgga ggtgacactc acggacctta  
 60  
 gccaccgccc cgcctatcgc caccatggac gaacaggagg cattgaactc aatcatgaac  
 120  
 gatctggtgg ccctccagat gaaccgacgt caccggatgc ctggatatga gaccatgaag  
 180  
 aacaaagaca caggtcactc aaataggcag agtgacgtca gaatcaagtt cgagcacaac  
 240  
 ggggagagggc gaattatagc gttcagccgg cctgtgaaat atgaagatgt ggagcacaag  
 300  
 gtgacaacag tatttggaca acctcttgat ctacattaca tgaacaatga gctctccatc  
 360  
 ctgctgaaaa accaagatga tcttgataaa gcaattgaca ttttagatag aagctcaagc  
 420  
 atgaaaagcc ttaggatatt gctgttggtcc caggacagaa accataacag ttcctctccc  
 480  
 cactctgggg tgtccagaca ggtgcggatc aaggcttccc agtccgcagg ggatataaat  
 540  
 actatctacc agcccccca gccagaagc aggcacctct ctgtcagctc ccagaaccct  
 600  
 ggccgaagct cacctcccc tggtatggt cctgagcggc agcagcacat tgcccggcag  
 660

gggtcctaca ccagcatcaa cagtgagggg gagttcatcc cagagaccag cgagcagtgc  
720  
atgctggatc ccctgagcag tgcagaaaat tccttgtctg gaagctgcc aatccttggac  
780  
aggctcagcag acagcccatc cttccggaaa tcacgaatgt cccgtgcccc gagcttccct  
840  
gacaacagac aggaatactc agatcgggaa actcagcttt atgacaaagg ggtcaaagg  
900  
ggaacctacc cccggcgcta ccacgtgtct gtgcaccaca aggactacag tgatggcaga  
960  
agaacatttc cccgaatacg gcgtcatcaa ggcaacttgt tcaccctggg gccctccagc  
1020  
cgctccctga gcacaaatgg cgagaacatg ggtctggctg tgcaatacct ggacccccgt  
1080  
gggcgctgc ggagtgcgga cagcgagaat gccctctctg tgcaggagag gaatgtgcc  
1140  
accaagtctc ccagtgtccc catcaactgg cgccggggaa agctcctggg ccagggtgcc  
1200  
ttcggcaggg tctatttctg ctatgacgtg gacacgggac gtgaacttgc ttccaagcag  
1260  
gtccaatttg atccagacag tcctgagaca agcaaggagg tgagtgtctt ggagtgcgag  
1320  
atccagtgtc taaagaactt gcagcatgag cgcacgtgtc agtactatgg ctgtctgcgg  
1380  
gaccgcgctg agaagacctt gaccatcttc atggagtaca tgccaggggg ctcgggtgaaa  
1440  
gaccagtga aggtttacgg tgctctgaca gagagcgtga cccgaaagta cacgcggcag  
1500  
atcctggagg gcatgtccta cctgcacagc aacatgattg ttcaccggga cattaaggga  
1560  
gccaacatcc tccgagactc tgctgggaat gtaaagctgg gggacttttg ggccagcaaa  
1620  
cgcttcgaga cgatctgtat gtcggggacg ggcacgtgtc ccgtcactgg cacaccctac  
1680  
tggtatgagc ctgaggtgat cagcggcgag ggctatggaa ggaaagcaga cgtgtggagc  
1740  
ctgggctgca ctgtggtgga gatgctgaca gagaaaccac cgtgggcaga gtatgaagct  
1800  
atggccgcca tcttcaagat tgccaccag cccaccaatc ctcagctgcc ctccacatc  
1860  
tctgaacatg gccgggactt cctgaggcgc atttttgtgg aggtctgcca gagaccttca  
1920  
gctgaggagc tgctcacaca ccactttgca cagctcatgt actgagctct cacggccaca  
1980  
cagctgccgg tcgccctttg ctgcatggca gggggctgct gctgggctca gtgaagttgc  
2040  
tgcttctccc aggcaaggct gtggaccatg gagtggcagc ccagccagcg tcggtctgtg  
2100  
ccccttccgc cactggggct cagagccggg gtgggggtggc tgcagcctca ggactgggag  
2160  
ccccagcct gtcagatcca ggagctccag tgcctgagc tcagcgtgga ggggtagggg  
2220  
ctgggaacag tgtgcaaggc agccgtgggc cccaccctcg gggatgtgtc ctgacactgc  
2280

aattggcacc gaagcccaga ggggtctgggg gcacaagact gacgccaggg tatgaagagt  
2340  
gttattttca ttcaaagtgt tattttgttt ttccttccaa tgtctggaga ccaccagggc  
2400  
atctctgggc tggatgagct cccacaagcc tgaggggaaag gccagcactc gctagcagt  
2460  
gcaggcagag gccagggtg ccgtccccta gagtcccagg ttggctctgc cagtccctgc  
2520  
ctttacaaaa gatgaatgaa gcaaagtca tgctgcctta ttcagggaag gaggagcctg  
2580  
tctgcctgt ggccatgacc ctgcctctcc caggcagggg cccgcgatgt ggaactgctg  
2640  
ccactgaggg gggatccagt tttgtcaatg cagttgtctc tgttttataa gttggagtca  
2700  
ctcttatgct gtaccagtt tctaaactgg agactgtgtg tgccctctgg gctctgagta  
2760  
ccctgctttt gggcttgggc ctaggctgca ttgaaaagag ctgaagggtg tggcctttgc  
2820  
gctcctggcc cagcctttgt tcccactgg agcagaaggg gagatggacg acacggtggg  
2880  
ggcatctggc ctggccagtg ccctgatccc agagagcccg aggaggtgtc tcaggctgcc  
2940  
tgagtcgtga cctgctaggc cagagccac tccatctggt agaagggaaa gcccatatgc  
3000  
taccaccagc tgtgtccaaa accgccagct ctgttcttcc tcagccagcc tcgcccattc  
3060  
ccttgaggtc tcagcccctt tccctttag ctctcccct ggagggggaa tggcagcagg  
3120  
ggttggggaa acagcatctc caagcagctt agagttggcc atatttacct cagcctgggc  
3180  
gctggctcct tcttcggcc cctcccctcc aaaatgtgcc tattgctaga gctcctccct  
3240  
ctcaacaccc agtttcttg ggagttgtca ttaaaggaaa aaaaaa  
3286

&lt;210&gt; 4846

&lt;211&gt; 626

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4846

Met	Asp	Glu	Gln	Glu	Ala	Leu	Asn	Ser	Ile	Met	Asn	Asp	Leu	Val	Ala
1				5					10				15		
Leu	Gln	Met	Asn	Arg	Arg	His	Arg	Met	Pro	Gly	Tyr	Glu	Thr	Met	Lys
			20					25					30		
Asn	Lys	Asp	Thr	Gly	His	Ser	Asn	Arg	Gln	Ser	Asp	Val	Arg	Ile	Lys
		35					40					45			
Phe	Glu	His	Asn	Gly	Glu	Arg	Arg	Ile	Ile	Ala	Phe	Ser	Arg	Pro	Val
	50				55					60					
Lys	Tyr	Glu	Asp	Val	Glu	His	Lys	Val	Thr	Thr	Val	Phe	Gly	Gln	Pro
65				70					75					80	
Leu	Asp	Leu	His	Tyr	Met	Asn	Asn	Glu	Leu	Ser	Ile	Leu	Leu	Lys	Asn
			85					90						95	
Gln	Asp	Asp	Leu	Asp	Lys	Ala	Ile	Asp	Ile	Leu	Asp	Arg	Ser	Ser	Ser

			100					105					110			
Met	Lys	Ser	Leu	Arg	Ile	Leu	Leu	Leu	Ser	Gln	Asp	Arg	Asn	His	Asn	
		115					120					125				
Ser	Ser	Ser	Pro	His	Ser	Gly	Val	Ser	Arg	Gln	Val	Arg	Ile	Lys	Ala	
	130					135					140					
Ser	Gln	Ser	Ala	Gly	Asp	Ile	Asn	Thr	Ile	Tyr	Gln	Pro	Pro	Glu	Pro	
145					150					155					160	
Arg	Ser	Arg	His	Leu	Ser	Val	Ser	Ser	Gln	Asn	Pro	Gly	Arg	Ser	Ser	
			165						170					175		
Pro	Pro	Pro	Gly	Tyr	Val	Pro	Glu	Arg	Gln	Gln	His	Ile	Ala	Arg	Gln	
			180					185					190			
Gly	Ser	Tyr	Thr	Ser	Ile	Asn	Ser	Glu	Gly	Glu	Phe	Ile	Pro	Glu	Thr	
	195						200					205				
Ser	Glu	Gln	Cys	Met	Leu	Asp	Pro	Leu	Ser	Ser	Ala	Glu	Asn	Ser	Leu	
	210					215					220					
Ser	Gly	Ser	Cys	Gln	Ser	Leu	Asp	Arg	Ser	Ala	Asp	Ser	Pro	Ser	Phe	
225					230					235					240	
Arg	Lys	Ser	Arg	Met	Ser	Arg	Ala	Gln	Ser	Phe	Pro	Asp	Asn	Arg	Gln	
			245						250					255		
Glu	Tyr	Ser	Asp	Arg	Glu	Thr	Gln	Leu	Tyr	Asp	Lys	Gly	Val	Lys	Gly	
			260					265					270			
Gly	Thr	Tyr	Pro	Arg	Arg	Tyr	His	Val	Ser	Val	His	His	Lys	Asp	Tyr	
	275						280					285				
Ser	Asp	Gly	Arg	Arg	Thr	Phe	Pro	Arg	Ile	Arg	Arg	His	Gln	Gly	Asn	
	290					295					300					
Leu	Phe	Thr	Leu	Val	Pro	Ser	Ser	Arg	Ser	Leu	Ser	Thr	Asn	Gly	Glu	
305					310					315					320	
Asn	Met	Gly	Leu	Ala	Val	Gln	Tyr	Leu	Asp	Pro	Arg	Gly	Arg	Leu	Arg	
			325						330					335		
Ser	Ala	Asp	Ser	Glu	Asn	Ala	Leu	Ser	Val	Gln	Glu	Arg	Asn	Val	Pro	
			340					345					350			
Thr	Lys	Ser	Pro	Ser	Ala	Pro	Ile	Asn	Trp	Arg	Arg	Gly	Lys	Leu	Leu	
	355						360					365				
Gly	Gln	Gly	Ala	Phe	Gly	Arg	Val	Tyr	Leu	Cys	Tyr	Asp	Val	Asp	Thr	
	370					375					380					
Gly	Arg	Glu	Leu	Ala	Ser	Lys	Gln	Val	Gln	Phe	Asp	Pro	Asp	Ser	Pro	
385					390					395					400	
Glu	Thr	Ser	Lys	Glu	Val	Ser	Ala	Leu	Glu	Cys	Glu	Ile	Gln	Leu	Leu	
			405						410					415		
Lys	Asn	Leu	Gln	His	Glu	Arg	Ile	Val	Gln	Tyr	Tyr	Gly	Cys	Leu	Arg	
			420					425					430			
Asp	Arg	Ala	Glu	Lys	Thr	Leu	Thr	Ile	Phe	Met	Glu	Tyr	Met	Pro	Gly	
		435					440					445				

530		535		540
Gly Arg Lys Ala Asp Val Trp Ser Leu Gly Cys Thr Val Val Glu Met				
545		550		555
Leu Thr Glu Lys Pro Pro Trp Ala Glu Tyr Glu Ala Met Ala Ala Ile				560
		565		570
Phe Lys Ile Ala Thr Gln Pro Thr Asn Pro Gln Leu Pro Ser His Ile				575
		580		585
Ser Glu His Gly Arg Asp Phe Leu Arg Arg Ile Phe Val Glu Ala Arg				590
		595		600
Gln Arg Pro Ser Ala Glu Glu Leu Leu Thr His His Phe Ala Gln Leu				605
		610		615
Met Tyr				620
625				

&lt;210&gt; 4847

&lt;211&gt; 2804

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4847

```

ccaacagcag cggagaaacg tttctctttc ctctcagttt gcgcacacca tggcggcccc
60
tgcccagcag actactcagc ctggcggcgg gaagcgcaaa ggcaaggctc agtatgtgct
120
ggccaagcgc gctcggcgct gcgacgctgg cgggccccgt cagctagagc ccgggctaca
180
gggcatacctc atcacctgca atatgaacga gcgcaagtgc gtggaggagg cctacagcct
240
cctcaacgaa tacggcgacg acatgtatgg gccagaaaag ttttatgcaa acagtttaca
300
gacaaggatc agcagccctc tggaagtgag ggagaggatg atgatgcgga ggctgccttg
360
aagaaagaag ttggtgacat taaggcatct acagagatga ggttaagaag attccagtca
420
gtggaaagtg gagcaaataa cgttgtcttc atcaggacac ttgggataga gcctgagaaa
480
ttggtgcatc atattctcca ggatatgtac aaaaccaaga aaaagaagac tcgagttatt
540
ttgcgaatgt tacccatctc aggcacatgc aaggcttttt tagaagatat gaaaaaatat
600
gcagaaacat ttttggaacc ctggtttaaa gctccaaaca aaggacatt tcagattgtg
660
tacaaatctc gaaataacag tcatgtgaat agagaagaag ttatcagaga attggcagga
720
atagtgtgca ccctcaattc agaaaataaa gtggatctca ccaatccaca gtacacagtg
780
gtagtagaaa tcatcaaagc tgtctgttgc ctgagtgttg tgaaagatta catgttgttt
840
agaaaataca atctccagga ggtggtgaag agccctaagg atccgtcaca gcttaactca
900
aagcagggaa atgggaaaga agctaaactg gaatctgcgg acaaatcaga ccaaaacaac
960
acagcagaag gaaaaaataa ccagcaggta ccagagaata ctgaggagct agggcagaca
1020

```

aaaccaacgt ctaatccaca ggtggtaa at gagggaggag ccaaacctga acttgcaagt  
1080  
caagccacag aaggatccaa gtcaaatgaa aatgacttct cataggaagt catttggtgt  
1140  
tggagctgac agtccagtgt cgcaattttg gaaggcaaga tgtgagagag acgagaacca  
1200  
ttttaggcat agaactacag acatttctga aaagggttgg gatgaagaac ttcagtcttc  
1260  
tgagtatact tcagtatact agtgcaacaa gggacacaaa gaaattctgt cttaataaag  
1320  
aaagctactt ctcaagggta ttatgtggac tcagtccaag ctctcctgtc ccattgtgca  
1380  
ttgtctgtga catgcaactt acaaaactag caattgtaac aataaatcac agccacttga  
1440  
caagaaagga tattcattat tttcaa atgg cttttggact atcaaaaaca gtaaggcttt  
1500  
tgttcagaaa tcacctttag tcaaaagggt taagaagcaa attatttagt agcagaactt  
1560  
atctcaggaa aggaaaatat gcatgggttg tgagaatcta ataacattaa aatgctgggg  
1620  
caagatgcag tacaaagttg aagagacttt attctcaata agttgattta ctgatgat  
1680  
gtcatatgat gcaaaaaagg ttttgtgtca ttaactgaaa agtagcagct tctctatcca  
1740  
ggatgatgag tcaacagggt tcaactaatat ttgtcatgct gtagcatttg taagatttgt  
1800  
aatgatgaa attcaaagaa aactttttct attgctagga gcctgccaga acaaaggcca  
1860  
atatataatg ttgtgacatc atatctgata accagagggtc tggatatctac actcctgggtg  
1920  
ccccatcagt gggtgtctcc ataagtcatt ttgcgttatt aaaaaaaaaa aaagaaatcc  
1980  
tgatgttgac attatagcac actgctttct ccacagagat gctgatatca aaaacttgaa  
2040  
gatacagtga agttctgaat aatgttacia aactgggttac ctgtatcaaa gaccatttta  
2100  
tgcaaaaatg ttaaaaaaaaaa aaaacaccca aaacaaaaaac ctggacagac agcacataaa  
2160  
cctcctgccc catacaaaca tccagggggt tctcaaagga agcgttctct acaggatatt  
2220  
tgaattgaaa ggtgaattgc cagagtactt acaataaaac agccagcttt tgctgagtgc  
2280  
tttggaatg aaaaatgact acagaaagta gcctattttg cagacgtttt tcatcacatg  
2340  
aacaatgga caagtctctg aaagggtctg gggaaaaaaa ttttcttaa agcgacaaga  
2400  
ctcttagatc taaaaggaaa ctgacttgcc accttgccag aggaattctt gaaatgtttc  
2460  
tgcagccact tggccttgaa aataaagggt gcaactctca agtcttggtc taacccggct  
2520  
ggaggaacca caagacccaa tgaaatagca ttttctctcc ttttccagc actagtatat  
2580  
aacctatgag gaacccttgt ctctgaatct gctcagcttg aaattttgtc tctgaaggaa  
2640

gagaatgaac tcagccctag tctgacagtc ctagatttct gtgaaataag agtattcttc  
 2700  
 aacttagtgc tcacactcac ataccatgag gggtctctgc aggggttttag ggggtttcctg  
 2760  
 aattttaaag ttttttcaag gcctcttttt gggtaaaaca attg  
 2804

<210> 4848  
 <211> 242  
 <212> PRT  
 <213> Homo sapiens

<400> 4848  
 Met Arg Leu Arg Arg Phe Gln Ser Val Glu Ser Gly Ala Asn Asn Val  
 1 5 10 15  
 Val Phe Ile Arg Thr Leu Gly Ile Glu Pro Glu Lys Leu Val His His  
 20 25 30  
 Ile Leu Gln Asp Met Tyr Lys Thr Lys Lys Lys Lys Thr Arg Val Ile  
 35 40 45  
 Leu Arg Met Leu Pro Ile Ser Gly Thr Cys Lys Ala Phe Leu Glu Asp  
 50 55 60  
 Met Lys Lys Tyr Ala Glu Thr Phe Leu Glu Pro Trp Phe Lys Ala Pro  
 65 70 75 80  
 Asn Lys Gly Thr Phe Gln Ile Val Tyr Lys Ser Arg Asn Asn Ser His  
 85 90 95  
 Val Asn Arg Glu Glu Val Ile Arg Glu Leu Ala Gly Ile Val Cys Thr  
 100 105 110  
 Leu Asn Ser Glu Asn Lys Val Asp Leu Thr Asn Pro Gln Tyr Thr Val  
 115 120 125  
 Val Val Glu Ile Ile Lys Ala Val Cys Cys Leu Ser Val Val Lys Asp  
 130 135 140  
 Tyr Met Leu Phe Arg Lys Tyr Asn Leu Gln Glu Val Val Lys Ser Pro  
 145 150 155 160  
 Lys Asp Pro Ser Gln Leu Asn Ser Lys Gln Gly Asn Gly Lys Glu Ala  
 165 170 175  
 Lys Leu Glu Ser Ala Asp Lys Ser Asp Gln Asn Asn Thr Ala Glu Gly  
 180 185 190  
 Lys Asn Asn Gln Gln Val Pro Glu Asn Thr Glu Glu Leu Gly Gln Thr  
 195 200 205  
 Lys Pro Thr Ser Asn Pro Gln Val Val Asn Glu Gly Gly Ala Lys Pro  
 210 215 220  
 Glu Leu Ala Ser Gln Ala Thr Glu Gly Ser Lys Ser Asn Glu Asn Asp  
 225 230 235 240  
 Phe Ser

<210> 4849  
 <211> 321  
 <212> DNA  
 <213> Homo sapiens

<400> 4849  
 nccatgtgtg gaggcagaga ggcagcatcc aggcgctggt cctctcgga catgctgctg  
 60



ctgaagaaac acacggagga catcagcagc gtctacgaga tccgcgagag gctcggctcg  
 120  
 ggtgccttct ccgaggtggt gctggcccag gagcggggct ccgcacacct cgtggccctc  
 180  
 aagtgcattcc ccaagaaggc cctccggggc aaggaggccc tgggtggagaa cgagatcgca  
 240  
 gtgctccgta ggatcagtca cccaacatc gtcgctctgg aggatgtcca cgagagccct  
 300  
 tcccacctct acctggccat g  
 321

<210> 4850

<211> 90

<212> PRT

<213> Homo sapiens

<400> 4850

Met	Leu	Leu	Leu	Lys	His	Thr	Glu	Asp	Ile	Ser	Ser	Val	Tyr	Glu
1				5				10					15	
Ile	Arg	Glu	Arg	Leu	Gly	Ser	Gly	Ala	Phe	Ser	Glu	Val	Val	Leu
		20						25				30		Ala
Gln	Glu	Arg	Gly	Ser	Ala	His	Leu	Val	Ala	Leu	Lys	Cys	Ile	Pro
		35					40					45		Lys
Lys	Ala	Leu	Arg	Gly	Lys	Glu	Ala	Leu	Val	Glu	Asn	Glu	Ile	Ala
	50					55					60			Val
Leu	Arg	Arg	Ile	Ser	His	Pro	Asn	Ile	Val	Ala	Leu	Glu	Asp	Val
65					70					75				80
Glu	Ser	Pro	Ser	His	Leu	Tyr	Leu	Ala	Met					
				85					90					

<210> 4851

<211> 820

<212> DNA

<213> Homo sapiens

<400> 4851

aagatctgag cgagtcgcgt agctgagccc ggcaggggct ggggtggtgc tgctgctatg  
 60  
 agttgcacca tcgagaagat cctgacagac gccaaagacgc tgctggagag gctacgggag  
 120  
 cacgatgcgg ccgccgagtc gctggtggat cagtcggcgg cgctgcaccg gcgggtagca  
 180  
 gctatgcggg aggcggggac agcgcttccg gaccagtatc aagaggatgc atccgatatg  
 240  
 aaggacatgt ccaaatacaa acctcacatt ctgctgtccc aagagaacac acagattaga  
 300  
 gacttgcaac aggaaaacag agagctatgg atttccttgg aggaacacca ggatgctttg  
 360  
 gaacttatca tgagcaaata tcggaaacag atgttacagt taatgggtgc taaaaaagcg  
 420  
 gtggatgctg aaccagtcct gaaagctcac cagtctcact ctgcagaaat tgagagtcag  
 480  
 attgacagaa tctgtgaaat gggagaagtg atgaggaaaag cagttcaggt ggatgatgac  
 540

cagttttgta agattcagga aaaattagcc caattagagc ttgaaaataa ggaacttcga  
 600  
 gaattattgt ccatcagcag tgagtctctt caagccagaa aggaaaactc aatggacact  
 660  
 gcttcccaag ccatcaaata actgaactct gaatgatggc tggagattgt ctatcaagga  
 720  
 aggaagttac tgtcttccca ttcaagtact gtccattaag tgtcttgcct cagatttgat  
 780  
 ttaatcttaa ttaaagggtat caggtggcaa tttagaattc  
 820

<210> 4852  
 <211> 207  
 <212> PRT  
 <213> Homo sapiens

<400> 4852  
 Met Ser Cys Thr Ile Glu Lys Ile Leu Thr Asp Ala Lys Thr Leu Leu  
 1 5 10 15  
 Glu Arg Leu Arg Glu His Asp Ala Ala Glu Ser Leu Val Asp Gln  
 20 25 30  
 Ser Ala Ala Leu His Arg Arg Val Ala Ala Met Arg Glu Ala Gly Thr  
 35 40 45  
 Ala Leu Pro Asp Gln Tyr Gln Glu Asp Ala Ser Asp Met Lys Asp Met  
 50 55 60  
 Ser Lys Tyr Lys Pro His Ile Leu Leu Ser Gln Glu Asn Thr Gln Ile  
 65 70 75 80  
 Arg Asp Leu Gln Gln Glu Asn Arg Glu Leu Trp Ile Ser Leu Glu Glu  
 85 90 95  
 His Gln Asp Ala Leu Glu Leu Ile Met Ser Lys Tyr Arg Lys Gln Met  
 100 105 110  
 Leu Gln Leu Met Val Ala Lys Lys Ala Val Asp Ala Glu Pro Val Leu  
 115 120 125  
 Lys Ala His Gln Ser His Ser Ala Glu Ile Glu Ser Gln Ile Asp Arg  
 130 135 140  
 Ile Cys Glu Met Gly Glu Val Met Arg Lys Ala Val Gln Val Asp Asp  
 145 150 155 160  
 Asp Gln Phe Cys Lys Ile Gln Glu Lys Leu Ala Gln Leu Glu Leu Glu  
 165 170 175  
 Asn Lys Glu Leu Arg Glu Leu Leu Ser Ile Ser Ser Glu Ser Leu Gln  
 180 185 190  
 Ala Arg Lys Glu Asn Ser Met Asp Thr Ala Ser Gln Ala Ile Lys  
 195 200 205

<210> 4853  
 <211> 1467  
 <212> DNA  
 <213> Homo sapiens

<400> 4853  
 ntgtgaggtc gcgttcccca gtgttacgga gggtccttga ggcaggagtg aaaattgggt  
 60  
 ctggggggtta gtcttgggggt ggaggtctgg gcacgcggg tcggaccccc tccatcttcg  
 120

gttttgcaca ccccgctttc cagcgcgaggag tcgggagggg gtagggcggc gtcgcgtgcg  
180  
tgacgtcatc cagcggcgcc atcggaggct ccagtggcct tgacctcccg cgtcgtgtag  
240  
gcctgcgcgg cgatgctgca gttcgtccgg gccggggcgc gggcctggct tcggcctacc  
300  
ggcagccagg gcctgagttc cctggcggaag gaggcagcgc gtgcgaccga gaaccggagg  
360  
caggtggcga gcgaggtct cccggagccc gtgctgcgca aagtcgagct cccggtaccc  
420  
actcatcgac gccagtgca ggccctgggtc gaggccttgc ggggcttcga gcaggagcgc  
480  
gtgggcctgg ccgacctgca ccccgatggt ttccgccaccg cgcccaggct ggacatactg  
540  
caccagggtt ctatgtggca gaagaacttc aagagaatta gctatgcca gaccaagacg  
600  
agagccgagg tgcggggcgg tggccggaag cctntggccg cagaaaggca ctgggagggg  
660  
ccggcatggc agcatccgt ctccgctctg gcgaggagga ggtgttgccc atggcccccg  
720  
ggccccacaa gttactacta catgctgccc atgaagggtc gggcgctggg tctcaaagtg  
780  
gcactgaccg tcaagctggc ccaggacgac ctgcacatca tggactccct agagctgccc  
840  
accggagacc cacagtacct gacagagctg gcgcactacc gccgctgggg ggactccgta  
900  
ctcctcgtgg acttaacaca cgaggagatg ccacagagca tcgtggaggc cacctctagg  
960  
cttaagacct tcaacttgat cccggctggt ggccctaaatg tgcacagcat gctcaagcac  
1020  
cagacgctgg tcctgacgt gccccaccgtc gccttcctgg aggacaagct gctctggcag  
1080  
gactcacgtt acagaccct ctacccttc agcctgccct acagcgactt ccccgaccc  
1140  
ctacccacg ctaccaggg cccagcggcc acccgtacc actgttgatg tgaagcacct  
1200  
cttctgagcc aggcggagcc cctggccgac ttgggagcct tagggccacg cccacccttc  
1260  
gaggaagggtg tcacctggac cccttcattc cacggaggaa gctgaggcca cagggagcgg  
1320  
ccatcgccat tgggaagggg cgactccacg gagagcccag acggggcttc tgcattccatt  
1380  
ccctcttttt gtttttaaaa taaattgtat ttttgaatca aaaaaaaaaa aaaaaaaaaa  
1440  
aaaaaaaaaa aaaaaaaaaa aaaaaaa  
1467

&lt;210&gt; 4854

&lt;211&gt; 311

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4854

Met Leu Gln Phe Val Arg Ala Gly Ala Arg Ala Trp Leu Arg Pro Thr

1                      5                      10                      15  
 Gly Ser Gln Gly Leu Ser Ser Leu Ala Glu Glu Ala Ala Arg Ala Thr  
                     20                      25                      30  
 Glu Asn Pro Glu Gln Val Ala Ser Glu Gly Leu Pro Glu Pro Val Leu  
                     35                      40                      45  
 Arg Lys Val Glu Leu Pro Val Pro Thr His Arg Arg Pro Val Gln Ala  
                     50                      55                      60  
 Trp Val Glu Ser Leu Arg Gly Phe Glu Gln Glu Arg Val Gly Leu Ala  
 65                      70                      75                      80  
 Asp Leu His Pro Asp Val Phe Ala Thr Ala Pro Arg Leu Asp Ile Leu  
                     85                      90                      95  
 His Gln Val Ala Met Trp Gln Lys Asn Phe Lys Arg Ile Ser Tyr Ala  
                     100                      105                      110  
 Lys Thr Lys Thr Arg Ala Glu Val Arg Gly Gly Gly Arg Lys Pro Xaa  
                     115                      120                      125  
 Ala Ala Glu Arg His Trp Ala Gly Pro Ala Trp Gln His Pro Leu Ser  
                     130                      135                      140  
 Ala Leu Ala Arg Arg Arg Cys Cys Pro Trp Pro Pro Gly Pro Thr Ser  
 145                      150                      155                      160  
 Tyr Tyr Tyr Met Leu Pro Met Lys Val Arg Ala Leu Gly Leu Lys Val  
                     165                      170                      175  
 Ala Leu Thr Val Lys Leu Ala Gln Asp Asp Leu His Ile Met Asp Ser  
                     180                      185                      190  
 Leu Glu Leu Pro Thr Gly Asp Pro Gln Tyr Leu Thr Glu Leu Ala His  
                     195                      200                      205  
 Tyr Arg Arg Trp Gly Asp Ser Val Leu Leu Val Asp Leu Thr His Glu  
                     210                      215                      220  
 Glu Met Pro Gln Ser Ile Val Glu Ala Thr Ser Arg Leu Lys Thr Phe  
 225                      230                      235                      240  
 Asn Leu Ile Pro Ala Val Gly Leu Asn Val His Ser Met Leu Lys His  
                     245                      250                      255  
 Gln Thr Leu Val Leu Thr Leu Pro Thr Val Ala Phe Leu Glu Asp Lys  
                     260                      265                      270  
 Leu Leu Trp Gln Asp Ser Arg Tyr Arg Pro Leu Tyr Pro Phe Ser Leu  
                     275                      280                      285  
 Pro Tyr Ser Asp Phe Pro Arg Pro Leu Pro His Ala Thr Gln Gly Pro  
                     290                      295                      300  
 Ala Ala Thr Pro Tyr His Cys  
 305                      310

&lt;210&gt; 4855

&lt;211&gt; 750

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4855

nncgcaggag taacctactt ggtctcctgc tttcgcgaca tggccttcaa ttttggggct  
 60  
 ccctcgggca cctccggtac cgctgcagcc accgcggccc ccgcgggtgg gtttggagga  
 120  
 tttgggacaa catctacaac tgcaggttct gcattcagct tttctgcccc aactaacaca  
 180  
 ggcaactactg gactcttttg tggtactcag aacaaagggt ttggatttgg tactggtttt  
 240

ggcacaacaa cgggaactag tactgggtta ggtactgggt tgggaactgg actgggattt  
 300  
 ggaggattta atacacagca gcagcagcag caaactacat taggtgggtct cttcagtcag  
 360  
 cctacacaag ctctaccca gtccaaccag ctgataaata ctgcgagtgc tctttctgct  
 420  
 ccaacgctgt tgggagatga gagagatgct attttggcaa aatggaatca actgcaggcc  
 480  
 ttttggggaa caggaaaagg gtatttcaac aataatattc cgccagtgga attcacacaa  
 540  
 gaaaatccct tttgccgatt taaggcagta gggttatagtt gcatgcccag taataaagat  
 600  
 gaagacgggc tagtggtttt agttttcaac aaaaaagaaa cagagattcg aagccaacaa  
 660  
 caacagttgg tagaatcatt gcataaagtt ttgggaggaa accagaccct tactgtaaat  
 720  
 gtagagggca ctaaaacatt gccagatgat  
 750

&lt;210&gt; 4856

&lt;211&gt; 237

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4856

Met	Ala	Phe	Asn	Phe	Gly	Ala	Pro	Ser	Gly	Thr	Ser	Gly	Thr	Ala	Ala
1				5					10					15	
Ala	Thr	Ala	Ala	Pro	Ala	Gly	Gly	Phe	Gly	Gly	Phe	Gly	Thr	Thr	Ser
			20					25					30		
Thr	Thr	Ala	Gly	Ser	Ala	Phe	Ser	Phe	Ser	Ala	Pro	Thr	Asn	Thr	Gly
		35					40						45		
Thr	Thr	Gly	Leu	Phe	Gly	Gly	Thr	Gln	Asn	Lys	Gly	Phe	Gly	Phe	Gly
	50					55					60				
Thr	Gly	Phe	Gly	Thr	Thr	Gly	Thr	Ser	Thr	Gly	Leu	Gly	Thr	Gly	
65					70					75				80	
Leu	Gly	Thr	Gly	Leu	Gly	Phe	Gly	Gly	Phe	Asn	Thr	Gln	Gln	Gln	Gln
				85					90					95	
Gln	Gln	Thr	Thr	Leu	Gly	Gly	Leu	Phe	Ser	Gln	Pro	Thr	Gln	Ala	Pro
				100					105					110	
Thr	Gln	Ser	Asn	Gln	Leu	Ile	Asn	Thr	Ala	Ser	Ala	Leu	Ser	Ala	Pro
				115				120					125		
Thr	Leu	Leu	Gly	Asp	Glu	Arg	Asp	Ala	Ile	Leu	Ala	Lys	Trp	Asn	Gln
				130			135					140			
Leu	Gln	Ala	Phe	Trp	Gly	Thr	Gly	Lys	Gly	Tyr	Phe	Asn	Asn	Asn	Ile
145					150					155					160
Pro	Pro	Val	Glu	Phe	Thr	Gln	Glu	Asn	Pro	Phe	Cys	Arg	Phe	Lys	Ala
				165					170					175	
Val	Gly	Tyr	Ser	Cys	Met	Pro	Ser	Asn	Lys	Asp	Glu	Asp	Gly	Leu	Val
			180					185					190		
Val	Leu	Val	Phe	Asn	Lys	Lys	Glu	Thr	Glu	Ile	Arg	Ser	Gln	Gln	Gln
		195						200					205		
Gln	Leu	Val	Glu	Ser	Leu	His	Lys	Val	Leu	Gly	Gly	Asn	Gln	Thr	Leu
	210					215						220			
Thr	Val	Asn	Val	Glu	Gly	Thr	Lys	Thr	Leu	Pro	Asp	Asp			

225

230

235

&lt;210&gt; 4857

&lt;211&gt; 2887

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4857

nncggccggc gagggcagat ggaagagtat gaggaagagc cctctcgggg gtggtggcgg  
60  
ctcgggagct ccagtcaggc cgctgcctc aaacagatcc ttctgctgca attggacctc  
120  
atcgaacagc agcagcagca gctgcaggcc aaggaaaagg agatcgagga gctgaagtca  
180  
gagagagaca cgctccttgc tcggattgaa cgtatggaaa ggcggatgca gctggtaaag  
240  
aaggataacg agaaagaaa gcacaagctg tttcagggct atgaaactga agagagagag  
300  
gaaacagagc tatctgagaa aattaaactg gagtgccagc cggagctttc cgagacatcc  
360  
cagactctgc ctcccaagcc cttctcatgt gggcggagtg gaaagggaca taaaaggaaa  
420  
tccccatttg gaagtacaga aagaaagact cctgttaaaa agctggctcc tgaattttca  
480  
aaagtcaaaa caaaaactcc taagcactct cctattaaag aggaaccctg tggttcctta  
540  
tctgaaactg tttgtaaacg tgaattgagg agccaagaaa cccagaaaa gccccggtct  
600  
tcagtggaca cccaccaag actctccact ccccaaaagg gaccagcac ccatcccaag  
660  
gagaaagcct tctcaagtga gatagaagat ttgccgtacc tttccaccac agaaatgtat  
720  
ttgtgtcgtt ggcaccagcc tccccatca ccgttaccat tacgggaatc ctctccaaag  
780  
aaggaggaga ctgtagcaag taaggcatag agaacacttg ctcttatacc ctagtgggtg  
840  
cgggtcaagct aacaagtgtg aaaatgcctt tggcattttt aaaaaagtgc aatcaataaa  
900  
gcagagttct gtcaagaatg agtaagttaa cagccagaga cagacactgt gcaggcattg  
960  
caaatagatg gaattacagc aaaatgtgct caatgtatct gcctgcttac aacactggga  
1020  
gatgtgtttg ccagtaagtt gctcatcaca agagcaccag acttgggggt gtaatctccg  
1080  
gcaacttgca tgccctctga aagaagggtt ttctgtgctg tgaaatgcat agaactatac  
1140  
tttgccatgc acgactgttc ctgcaattga tattgtgtga aatctgggag ggtggtcttt  
1200  
gggtgtttctc aggggccaat ggtaattttt gggttgggga gccagcttgg ggtggggaat  
1260  
tttcacctgg gcctccgctc tttaactata taaacattta tctgtatata tatgtccctg  
1320  
tctggggggc aggaggaatc tgccaaagac caacagtctt actttatctt actatacttc  
1380

acaaagggttc taaaatgtga agagtttggt tgaaaaatag tttgtagacc attttattta  
1440  
aatatatgaa caaccaatgg gctactgcaa tccaagtaaa ctcttcacat tttagaacct  
1500  
ttgtgaagta tagtaagata aagtaagact gttgggtcttt ggcagattcc tcttgcccc  
1560  
cagacagggga catagatata cagataaatg tttatatagt taaagagcgg aggcccaggt  
1620  
gaaaattccc caccccaagc tggctcccca acccaaaaat taccattggc ccttgagaac  
1680  
acccaaagac caccctccca gatttcacac aatatcaatt gcaggaacag tctgtcatgg  
1740  
caaagtatatg ttctatgcat ttcacagcac agaaaaccct tctttcagag ggcattgcaag  
1800  
ttgccggaga ttacaccccc aagtctggtg ctcttgatgat gagcaactta ctggcaaaca  
1860  
catctcccag tgttgtaagc aggcaaatac attgagcaca ttttgctgta attccatcta  
1920  
tttgcaatgc ctgcacagtg tctgtctctg gctgttaact tactcattct tgacagaact  
1980  
ctgctttatt gattgcactt ttttaaaaat gccaaaggca ttttcacact tgttagcttg  
2040  
accgccacca ctaggggtata agagcaagtg ttctctatgc cttacttgct acagtctcct  
2100  
ccttctttgg agaggattcc cgtaatggta acggtgatgg gggaggctgg tgccaacgac  
2160  
acaaatacat ttctgtggtg gaaaggtagc gcaaactctt tatctcactt gagaaggctt  
2220  
tctccttggg atgggtgctg ggtccctttt ggggagtggg gagtcttggg ggggtgtcca  
2280  
ctgaagaccg gggcttttct ggggtttctt ggctcctcaa ttcacgttta caaacagttt  
2340  
cagataagga accacagggg tcctctttta taggagagtg cttaggagtt tttgttttga  
2400  
cttttgaaaa ttcaggagcc agctttttta caggagtctt tctttctgta cttccaaatg  
2460  
ggggtagaag tctaaccctt ccacccctc tcctccccag cagtcccacg cgggtatggg  
2520  
agagaatgaa gttctttgtc tctaagggat tcaaaccaga aacggaggga cctctgggtc  
2580  
ccagagggag gaaaatccat gatgtctgct gccagggag ctattgccac cgcctccttg  
2640  
ggatgaagta ttgccagcta ccaacagttc cttcccaacg gccatcttcc agccttctta  
2700  
aacgactcct agcatcttcg ggaggctcct gaaggactga agcaaaggaa atctctgaag  
2760  
ggatttagtc cttgaaaggg agtagggata cttagggtgt tctgtgttga gcgcttcttc  
2820  
ctatctctcc agcttcatgt atgtgtgtct ttatgtccaa gcaattgagc caacaagtcc  
2880  
tcagaat  
2887

&lt;210&gt; 4858

&lt;211&gt; 269

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4858

```

Xaa Gly Arg Arg Gly Gln Met Glu Glu Tyr Glu Glu Glu Pro Ser Arg
 1           5           10           15
Gly Trp Trp Arg Leu Gly Ser Ser Ser Gln Ala Ala Cys Leu Lys Gln
 20           25           30
Ile Leu Leu Leu Gln Leu Asp Leu Ile Glu Gln Gln Gln Gln Gln Leu
 35           40           45
Gln Ala Lys Glu Lys Glu Ile Glu Glu Leu Lys Ser Glu Arg Asp Thr
 50           55           60
Leu Leu Ala Arg Ile Glu Arg Met Glu Arg Arg Met Gln Leu Val Lys
 65           70           75           80
Lys Asp Asn Glu Lys Glu Arg His Lys Leu Phe Gln Gly Tyr Glu Thr
 85           90           95
Glu Glu Arg Glu Glu Thr Glu Leu Ser Glu Lys Ile Lys Leu Glu Cys
 100          105          110
Gln Pro Glu Leu Ser Glu Thr Ser Gln Thr Leu Pro Pro Lys Pro Phe
 115          120          125
Ser Cys Gly Arg Ser Gly Lys Gly His Lys Arg Lys Ser Pro Phe Gly
 130          135          140
Ser Thr Glu Arg Lys Thr Pro Val Lys Lys Leu Ala Pro Glu Phe Ser
 145          150          155          160
Lys Val Lys Thr Lys Thr Pro Lys His Ser Pro Ile Lys Glu Glu Pro
 165          170          175
Cys Gly Ser Leu Ser Glu Thr Val Cys Lys Arg Glu Leu Arg Ser Gln
 180          185          190
Glu Thr Pro Glu Lys Pro Arg Ser Ser Val Asp Thr Pro Pro Arg Leu
 195          200          205
Ser Thr Pro Gln Lys Gly Pro Ser Thr His Pro Lys Glu Lys Ala Phe
 210          215          220
Ser Ser Glu Ile Glu Asp Leu Pro Tyr Leu Ser Thr Thr Glu Met Tyr
 225          230          235          240
Leu Cys Arg Trp His Gln Pro Pro Pro Ser Pro Leu Pro Leu Arg Glu
 245          250          255
Ser Ser Pro Lys Lys Glu Glu Thr Val Ala Ser Lys Ala
 260          265

```

&lt;210&gt; 4859

&lt;211&gt; 689

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4859

```

cctgctgagg acatgaggac ccgtcttttt gcagtgccag gcagggtggc caaagaggac
 60
tggactctgg acctggagcc ccgtgggtcca gttcacattc accccacaag agtttcagga
 120
ggcctcccac ggtgcctgtg ctgggtggcg gtggtggtgc caagaggaat ggaatgtcct
 180
gggctccttc aggagctctc tacccagggg caaggagagc ccagagagaa gcgccttggt
 240

```



ctcttgagct tcctgatctg ctctgtccc ccgtctctct ccactccctt gcctttccct  
 300  
 aggttggtccc ctccctgggc ttttgtgtgt tttgggagat gtcacctaac caggacattg  
 360  
 atattcaatc ccatccccct tcctcccacc ctgccccact ttgatttaat cctttggctg  
 420  
 tgggctgagg cctcccaggg aagttgggtg ggggtgggtg tgagaccccc tcagaccagc  
 480  
 acagagacct gtccttgtgc agtctgcacc ctgcactccc tcccttgcct gtagatgttc  
 540  
 tggatgacag tagaggaaat ggacaaggtc agtttgaata tcccagaaca cagtgtctctg  
 600  
 tctcctccca ccagtccagt tagcttcctt tctggaccaa tagacgaggg gagaccccat  
 660  
 ggatcctctg gctgggaagc acctgacca  
 689

&lt;210&gt; 4860

&lt;211&gt; 173

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4860

Met	Arg	Thr	Arg	Leu	Phe	Ala	Val	Pro	Gly	Arg	Val	Ala	Lys	Glu	Asp
1				5					10					15	
Trp	Thr	Leu	Asp	Leu	Glu	Pro	Arg	Gly	Pro	Val	His	Ile	His	Pro	Thr
		20						25					30		
Arg	Val	Ser	Gly	Gly	Leu	Pro	Arg	Cys	Leu	Cys	Trp	Val	Ala	Val	Val
	35					40						45			
Val	Pro	Arg	Gly	Met	Glu	Cys	Pro	Gly	Leu	Leu	Gln	Glu	Leu	Ser	Thr
	50				55						60				
Gln	Gly	Gln	Gly	Glu	Pro	Arg	Glu	Lys	Arg	Pro	Gly	Leu	Leu	Ser	Phe
65				70					75					80	
Leu	Ile	Cys	Ser	Cys	Pro	Pro	Leu	Ser	Ser	Thr	Pro	Leu	Pro	Phe	Pro
			85						90					95	
Arg	Leu	Ser	Pro	Pro	Trp	Ala	Phe	Val	Cys	Phe	Gly	Arg	Cys	His	Leu
		100						105					110		
Thr	Arg	Thr	Leu	Ile	Phe	Asn	Pro	Ile	Pro	Leu	Pro	Pro	Thr	Leu	Pro
		115					120					125			
His	Phe	Asp	Leu	Ile	Leu	Trp	Leu	Trp	Ala	Glu	Ala	Ser	Gln	Gly	Ser
	130					135					140				
Trp	Val	Gly	Trp	Val	Leu	Arg	Pro	Pro	Gln	Thr	Ser	Thr	Glu	Thr	Cys
145				150					155					160	
Pro	Cys	Ala	Val	Cys	Thr	Leu	His	Ser	Leu	Pro	Cys	Leu			
			165						170						

&lt;210&gt; 4861

&lt;211&gt; 1622

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4861

ctgcagactt ccggcggcgc gctgcaggcg cggggaacac caatggcggg gtacttgaag  
 60

ctggtgtgtg tttcctttca gcgtcaaggg ttccacactg ttgggagtcg ctgcaagaat  
120  
cggacaggcg ctgagcacct gtggctgacc cgacatctca gggacccatt tgtgaaggct  
180  
gcgaaggtgg agagttaccg gtgtcgaagc gccttcaagc tcctggagggt gaacgagagg  
240  
caccagattc tgcggcccg ccttcgggtg ttagactgtg gggcagctcc tggggcctgg  
300  
agtcagggtg cgggtgcagaa ggtcaacgcc gcaggcacag atcccagctc tcctgttggc  
360  
ttcgtgcttg gggtagatct tcttcacata tccccctgg aaggagcaac ttttctgtgc  
420  
cctgctgacg tgactgacce gagaacctca cagagaatcc tcgagggtgct tcctggcagg  
480  
agagcagatg tgattctgag cgacatggcg cccaatgcca cagggttccg ggacctcgat  
540  
catgacaggc tcatcagcct gtgcctgacc cttctcagcg tgaccccaga catcctgcaa  
600  
cctgggggga cattcctttg taaaacctgg gctggaagtc aaagccgtcg gttacagagg  
660  
agactgacag aggaattcca gaatgtaagg atcatcaaac ctgaagccag caggaaagag  
720  
tcatcagaag tgtacttctt ggccacacag taccacggaa ggaagggcac tgtgaagcag  
780  
tgaggatttc ttgtgccatt ttcataatgg tcattagctc cttttaagct agaaacgtag  
840  
cctgagctcc tgaagagttc ctgggagatt tgagctgatt ttggagatgg agcaggacaa  
900  
gtggggagtc tctctctctc tttctctctc tctcttttta accaaaaaga gatgacaaaa  
960  
ctaagttcag gggccatgga aaatgaaaaa gtccgctata ttgtgatttg ggaagagaaa  
1020  
gttatcaaga gaaagagggtg aggatggaag gatggagaaa aacagactgt gggaaggatc  
1080  
agaaggaatc cgccgaggca gggatgggtg tgcccatgtg tgccttgacg ggacttcac  
1140  
ttatagactg ttaaactgtc acacacaaac aggcctttcca cccctgctct gagagcacca  
1200  
cgcacagatt tccagttctt agtgtggctg tttaaagtag aaaatctggg ggctgggtga  
1260  
ggccactcat gcctgtaaac ccagggtttt agaaggctga ggctggggga ttgcttgaag  
1320  
tcaggagtgc aagaccaacc tgggcaacat agcaacaccc cccatgtcta caaaaatgaa  
1380  
aaacaaaaa gcaaaccaaa agaaaaatct gaaatttcca tctggggatt aacttctgtc  
1440  
tttctgggtga acaatatagc aattcacgca ttcttcaagc agcaaaagtt cccggaacaa  
1500  
ttagggaaga cgtatggtct gaatttatcc aggcagtggg tctgctttgg tttttgctgg  
1560  
aaatttatat cagtgtctgg gctcccaaga acataaatgt aattgccaaa gcaaaaaaaa  
1620  
aa  
1622

<210> 4862  
 <211> 260  
 <212> PRT  
 <213> Homo sapiens

<400> 4862

```

Leu Gln Thr Ser Gly Gly Ala Leu Gln Ala Arg Gly Thr Pro Met Ala
 1          5          10          15
Gly Tyr Leu Lys Leu Val Cys Val Ser Phe Gln Arg Gln Gly Phe His
          20          25          30
Thr Val Gly Ser Arg Cys Lys Asn Arg Thr Gly Ala Glu His Leu Trp
          35          40          45
Leu Thr Arg His Leu Arg Asp Pro Phe Val Lys Ala Ala Lys Val Glu
          50          55          60
Ser Tyr Arg Cys Arg Ser Ala Phe Lys Leu Leu Glu Val Asn Glu Arg
65          70          75          80
His Gln Ile Leu Arg Pro Gly Leu Arg Val Leu Asp Cys Gly Ala Ala
          85          90          95
Pro Gly Ala Trp Ser Gln Val Ala Val Gln Lys Val Asn Ala Ala Gly
          100          105          110
Thr Asp Pro Ser Ser Pro Val Gly Phe Val Leu Gly Val Asp Leu Leu
          115          120          125
His Ile Phe Pro Leu Glu Gly Ala Thr Phe Leu Cys Pro Ala Asp Val
          130          135          140
Thr Asp Pro Arg Thr Ser Gln Arg Ile Leu Glu Val Leu Pro Gly Arg
145          150          155          160
Arg Ala Asp Val Ile Leu Ser Asp Met Ala Pro Asn Ala Thr Gly Phe
          165          170          175
Arg Asp Leu Asp His Asp Arg Leu Ile Ser Leu Cys Leu Thr Leu Leu
          180          185          190
Ser Val Thr Pro Asp Ile Leu Gln Pro Gly Gly Thr Phe Leu Cys Lys
          195          200          205
Thr Trp Ala Gly Ser Gln Ser Arg Arg Leu Gln Arg Arg Leu Thr Glu
          210          215          220
Glu Phe Gln Asn Val Arg Ile Ile Lys Pro Glu Ala Ser Arg Lys Glu
225          230          235          240
Ser Ser Glu Val Tyr Phe Leu Ala Thr Gln Tyr His Gly Arg Lys Gly
          245          250          255
Thr Val Lys Gln
          260

```

<210> 4863  
 <211> 355  
 <212> DNA  
 <213> Homo sapiens

<400> 4863

```

ctggggggtc actttcgggt gcacctggtg aagatggtca ttctgacaga gcctgagggt
60
gccccaaata tcacagccaa cctcacctcg tccctgctga gcgtctgtgg gtggagccag
120
accatcaacc ctgaggacga cacggatcct ggccatgctg acctggtcct ctatatcact
180

```

aggtttgacc tggagttgcc tgatggtaac ncggcagtc ggggcgtcac ccagctgggc  
 240  
 ggggcctgct ccccaacctg gagctgcctc attaccgagg aactggcctt cgacctggga  
 300  
 gtcaccattg cccatgagat tgggcacagc ttcggcctgg agcacgacgg cgcgc  
 355

<210> 4864  
 <211> 118  
 <212> PRT  
 <213> Homo sapiens

<400> 4864  
 Leu Gly Ala His Phe Arg Val His Leu Val Lys Met Val Ile Leu Thr  
 1 5 10 15  
 Glu Pro Glu Gly Ala Pro Asn Ile Thr Ala Asn Leu Thr Ser Ser Leu  
 20 25 30  
 Leu Ser Val Cys Gly Trp Ser Gln Thr Ile Asn Pro Glu Asp Asp Thr  
 35 40 45  
 Asp Pro Gly His Ala Asp Leu Val Leu Tyr Ile Thr Arg Phe Asp Leu  
 50 55 60  
 Glu Leu Pro Asp Gly Asn Xaa Ala Val Arg Gly Val Thr Gln Leu Gly  
 65 70 75 80  
 Gly Ala Cys Ser Pro Thr Trp Ser Cys Leu Ile Thr Glu Asp Thr Gly  
 85 90 95  
 Phe Asp Leu Gly Val Thr Ile Ala His Glu Ile Gly His Ser Phe Gly  
 100 105 110  
 Leu Glu His Asp Gly Ala  
 115

<210> 4865  
 <211> 444  
 <212> DNA  
 <213> Homo sapiens

<400> 4865  
 accggtgaga agccctacaa atgtgaggtc tgcagcaagg ccttctccca gagctctgac  
 60  
 ctcacaaac accagcgcac ccacactggc gagcgccctt acaaattgtcc ccgttgcggc  
 120  
 aaggccttcg ccgacagctc ttacctgctt cgccaccagc gcactcactc tggccagaag  
 180  
 ccctacaagt gcccacattg tggcaaggcc ttcggcgaca gctcctacct cctgcgacac  
 240  
 cagcgcaccc acagccacga gcggccctac agctgcaccg agtgcgga gtgctatagc  
 300  
 cagaactcgt ccctgcgcag ccatcagagg gtgcacaccg gtcagaggcc cttcagctgt  
 360  
 ggcactctgcg gcaagagctt ctcccagcgg tcggccctta tccccatgc ccgcagccac  
 420  
 gcccgggaga agcccttcac gcgt  
 444

<210> 4866

<211> 148  
 <212> PRT  
 <213> Homo sapiens

<400> 4866

```

Thr Gly Glu Lys Pro Tyr Lys Cys Glu Val Cys Ser Lys Ala Phe Ser
 1           5           10           15
Gln Ser Ser Asp Leu Ile Lys His Gln Arg Thr His Thr Gly Glu Arg
          20           25           30
Pro Tyr Lys Cys Pro Arg Cys Gly Lys Ala Phe Ala Asp Ser Ser Tyr
      35           40           45
Leu Leu Arg His Gln Arg Thr His Ser Gly Gln Lys Pro Tyr Lys Cys
 50           55           60
Pro His Cys Gly Lys Ala Phe Gly Asp Ser Ser Tyr Leu Leu Arg His
65           70           75           80
Gln Arg Thr His Ser His Glu Arg Pro Tyr Ser Cys Thr Glu Cys Gly
          85           90           95
Lys Cys Tyr Ser Gln Asn Ser Ser Leu Arg Ser His Gln Arg Val His
      100           105           110
Thr Gly Gln Arg Pro Phe Ser Cys Gly Ile Cys Gly Lys Ser Phe Ser
      115           120           125
Gln Arg Ser Ala Leu Ile Pro His Ala Arg Ser His Ala Arg Glu Lys
      130           135           140
Pro Phe Thr Arg
145

```

<210> 4867  
 <211> 391  
 <212> DNA  
 <213> Homo sapiens

<400> 4867

```

ggatcccaga gggagttcta tctggacttg cccaagcag gttgctaggc agtagcctca
60
tatecttggg gggaggatga gaaggacaaa aagaggcaac cagcctaggg acatcggcct
120
ccttctccac atccccattc tggtaggaaa agtcacccat gccaggatat cccagccca
180
gagacagccc caggggggtgc tgcctggaga cagccgggat agcttcagtc tcctgacct
240
gacacggggt gcaccaccag acaatgggca ttttcaggcc agactctggc acaaagagaa
300
ggggcagggc caaggctatg gccacaagc tcctcagcag ctgagatggg tgcaggagggt
360
agcgctctac tcccatagct cccactgta t
391

```

<210> 4868  
 <211> 125  
 <212> PRT  
 <213> Homo sapiens

<400> 4868

```

Met Gly Val Glu Arg Tyr Leu Leu His Pro Ser Gln Leu Leu Arg Ser

```

```

      1             5             10             15
Leu Trp Ala Ile Ala Leu Ala Leu Pro Leu Leu Phe Val Pro Glu Ser
      20             25             30
Gly Leu Lys Met Pro Ile Val Trp Trp Cys Ser Pro Cys Gln Gly Gln
      35             40             45
Glu Thr Glu Ala Ile Pro Ala Val Ser Arg Gln His Pro Leu Gly Leu
      50             55             60
Ser Leu Gly Trp Gly Tyr Pro Gly Met Gly Asp Phe Ser Tyr Gln Asn
      65             70             75             80
Gly Asp Val Glu Lys Glu Ala Asp Val Pro Arg Leu Val Ala Ser Phe
      85             90             95
Cys Pro Ser His Pro Pro Thr Lys Asp Met Arg Leu Leu Pro Ser Asn
      100             105             110
Leu Leu Gly Ala Ser Pro Asp Arg Thr Pro Ser Gly Ile
      115             120             125

```

&lt;210&gt; 4869

&lt;211&gt; 418

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4869

```

ccccgggaaga gggtcgcccc ccataaatgc ggaaacagtt aaatggcgat gggaatagga
60
tgggaaactca atggtgttgc taccttttga tggactcgga ggcagcccag cttcctggga
120
caggactgca cggactgcct ggggaggggt ctttggcccc ccggttctg caggggggct
180
cggggaggcc ctgtgagcag ttggtcacag gtgggtccca ttcgatgcga tcctgttcct
240
ccccaacagc cctggagaag ggggacgttg cctgctgtgg ctgcggctgt tttcctggcc
300
tgtgagagggc ggggccagag tggccgttgg gaatctgggt gttgcaaggt gaccacaaac
360
agctctctgg gggaggagga ggaaaatgca attgattttc aggagccttc tgaggctc
418

```

&lt;210&gt; 4870

&lt;211&gt; 125

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4870

```

Met Ala Met Gly Ile Gly Trp Glu Leu Asn Gly Val Ala Thr Phe Gly
      1             5             10             15
Trp Thr Arg Arg Gln Pro Ser Phe Leu Gly Gln Asp Cys Thr Asp Cys
      20             25             30
Leu Gly Arg Gly Leu Trp Pro Pro Gly Ser Cys Arg Gly Ala Arg Gly
      35             40             45
Gly Pro Val Ser Ser Trp Ser Gln Val Gly Pro Ile Arg Cys Asp Pro
      50             55             60
Val Pro Pro Gln Gln Pro Trp Arg Arg Gly Thr Leu Pro Ala Val Ala
      65             70             75             80
Ala Ala Val Phe Leu Ala Cys Glu Arg Arg Gly Gln Ser Gly Arg Trp

```

				85					90					95					
Glu	Ser	Gly	Cys	Cys	Lys	Val	Thr	Thr	Asn	Ser	Ser	Leu	Gly	Glu	Glu				
			100						105				110						
Glu	Glu	Asn	Ala	Ile	Asp	Phe	Gln	Glu	Pro	Ser	Glu	Val							
		115					120					125							

&lt;210&gt; 4871

&lt;211&gt; 1354

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4871

```

nntttttttt tttttttttt tttttctaga atccgcttta ttatggcacc tgggtgggtct
60
ggtgggatct gagggaggaa gaggctgcag tcttgctggg cagccccctcg gtcagtccag
120
cagccccctca ggccatgctg ctgctcagct gcatggcaaa gtccctgcaca tgctccttca
180
gagtctggcg ggcatctgcc tgtgcccgct tctcccgctc ccgctcctgc tgcagcttgg
240
tcagtctcaa ccgcagccgc tgtcccgccg gcttgcaggc ctgcagctgg cgctgggcct
300
tgtcaagggc atcaagggct gcctggctcg ccgcttccag agtaaggcgc tgcccacctg
360
gtagctgtgt tcattctgga tgtaggctcc ggcggggtggg ggcaggcgag catatacgct
420
gaggggggaga ctggccgtgg ttcgagaggg gagggctgcc gctctggtga aggctgggcg
480
ctgcagcctg cttcatctgc ctgggcaccc aagggggccca gtaggtctga aaaggggctg
540
ctaaggccag gctccagcct ccagctggg gagggccggca aagtggcagg tgctgaggcc
600
tcttccacag gaaagcaggt gacatcagca ggtggaggtg gagaaaatgg agttgtgggc
660
cctcgccct cggagcagcg cttcctgcat cgtctaagcc ggctgacttc agggggggcca
720
ggtgggtaac tgtgtccttt ggtcttggtt gtccggcgca acttgagaaa agactcaaag
780
atggtgggga ctgccccctc ctttagcctg tgatatccac tgattccac cagctcaaag
840
cagtcctcct caaagtgttt ggagcagaag tagatgtact cggatgccgg gtcccacagg
900
ccctggccgc tgggggtccag ccgctggcag ttggccagcc acaagcctcg cctcggggtg
960
tccttcttgg gaagtctgtg gagccacaaa cccgtgagca ccaggctgtc cacagccctg
1020
ggctcatgct gcccaagcac ccagagggg aaacgcagac ccaacacgcy ccgccacgag
1080
acctccctgc gaccccgccg ggtaagcacc accgcccggg cacagacgag gcaacggagg
1140
cctcgagaag aaaagcagtt tcctcagcgt catctggcag gtaacagagt ggggcgggtc
1200
caagccggct agacttcccg tcctccccct cccgactgca ttcagtcccg ccgggaccgt
1260

```

tccgcttcac ctcccaccca cagggttcaag cctcctcagt atctgagaaa ggcgcgaagc  
 1320  
 ctctacgcag ttgcgacccg aggcgagcaa caac  
 1354

<210> 4872  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 4872  
 Gly Arg Lys Arg Leu Gln Ser Cys Trp Ala Ala Pro Arg Ser Val Gln  
 1 5 10 15  
 Gln Pro Leu Arg Pro Cys Cys Cys Ser Ala Ala Trp Gln Ser Pro Ala  
 20 25 30  
 His Ala Pro Ser Glu Ser Gly Gly His Leu Pro Val Pro Ala Ser Pro  
 35 40 45  
 Val Pro Ala Pro Ala Ala Ala Trp Ser Val Ser Thr Ala Ala Ala Ala  
 50 55 60  
 Pro Ala Ala Cys Arg Pro Ala Ala Gly Ala Gly Pro Cys Gln Gly His  
 65 70 75 80  
 Gln Gly Leu Pro Gly Ser Pro Leu Pro Glu  
 85 90

<210> 4873  
 <211> 948  
 <212> DNA  
 <213> Homo sapiens

<400> 4873  
 nccccctag gatgcagaaa gtagatgaca ttccatccac actgtgtgag caaattggag  
 60  
 agattgcctt gatagaggac tgatgttttt cactgatgag atggtgacca aaagccagcc  
 120  
 ccactgtgag ttgaactctt tcgtgttgac cggccactct ccgtgctctg gatgatgtcg  
 180  
 gaacacgacc tggccgatgt ggttcaaatt gcagtggaag acctgagccc tgaccaccca  
 240  
 ggtacagagc tgtgggacag tgttgttttg gagaatcatg tagtgacaga tgaagacgaa  
 300  
 cctgctttga aacgccagcg actagaaatc aattgccagg atccatctat aaagtcattc  
 360  
 ctgtattcca tcaaccagac aatctgcttg cggttggata gcattgaagc caaattgcaa  
 420  
 gccctggagg ctacttgtaa atccttagaa gaaaagctgg atctggtcac gaacaagcag  
 480  
 cacagcccca tccaggttcc catggtggcc ggctcccctc tcaggacaac ccagatgtgc  
 540  
 aacaaagtgc gatggtgaaga acagaccagg gtgccggggc cttcaggtca cttggggaga  
 600  
 agcgcgtcac ctctcgccc atgcccgcag cttagtggct cagtttgctg gagatgcgca  
 660  
 gtgtctgcct cagcagtctc agcagtttct aactaaagct gactttagtt agaccgaaac  
 720



cgaacacatg gcacccctgcc aggatgacct gaagtcaccc tcacctttcc tttccacata  
 780  
 aagccggccc atacaccttt tctttggaac taaccaccca gatcttagaa gatgtacacg  
 840  
 tgcttctttc ctttttccta ctctacctgg ctagtcttta gatatgtttt tcttcgtatg  
 900  
 tgggtgtttat acatttcaca tgaatatatc aaacttttca ttcaaaaa  
 948

<210> 4874

<211> 128

<212> PRT

<213> Homo sapiens

<400> 4874

Met	Met	Ser	Glu	His	Asp	Leu	Ala	Asp	Val	Val	Gln	Ile	Ala	Val	Glu
1				5					10					15	
Asp	Leu	Ser	Pro	Asp	His	Pro	Gly	Thr	Glu	Leu	Trp	Asp	Ser	Val	Val
			20					25					30		
Leu	Glu	Asn	His	Val	Val	Thr	Asp	Glu	Asp	Glu	Pro	Ala	Leu	Lys	Arg
		35					40					45			
Gln	Arg	Leu	Glu	Ile	Asn	Cys	Gln	Asp	Pro	Ser	Ile	Lys	Ser	Phe	Leu
	50					55					60				
Tyr	Ser	Ile	Asn	Gln	Thr	Ile	Cys	Leu	Arg	Leu	Asp	Ser	Ile	Glu	Ala
65					70					75				80	
Lys	Leu	Gln	Ala	Leu	Glu	Ala	Thr	Cys	Lys	Ser	Leu	Glu	Glu	Lys	Leu
			85						90					95	
Asp	Leu	Val	Thr	Asn	Lys	Gln	His	Ser	Pro	Ile	Gln	Val	Pro	Met	Val
			100						105				110		
Ala	Gly	Ser	Pro	Leu	Arg	Thr	Thr	Gln	Met	Cys	Asn	Lys	Val	Arg	Trp
		115					120						125		

<210> 4875

<211> 1255

<212> DNA

<213> Homo sapiens

<400> 4875

ntgtacagtc gattccattt ggcccgggga tggtcacacg cgcggggggc ggaactgccg  
 60  
 tcgccgggcg ggtcggtgtc gcattgctct cgccgcact cgcgctgtac gggccgccac  
 120  
 tggacgcagt tttagaaaga gcgttttcgc tacgtaaagc acattcgata aaggatatgg  
 180  
 aaaatacttt gcagctgggtg agaaatatca tacctcctct gtcttcacaa aagcacaaag  
 240  
 ggcaagatgg aagaataggc gtagttggag gctgtcagga gtacactgga gccccatatt  
 300  
 ttgcagcaat ctacgtcttc aaagtgggag cagacttgct ccacgtgttc tgtgccagtg  
 360  
 cgcccgccac tgtgattaag gcctacagcc cggagctgat cgtccaccca gttcttgaca  
 420  
 gccccaatgc tgttcattgag gtggagaagt ggctgccccg gctgcatgct cttgtcgtag  
 480

gacctggctt gggtagagat gatcggtccac ccagttcttg acagcccca tgctgttcat  
 540  
 gaggtggaga agtgggtgcc ccggctgcat gctcttgctg taggaactgg cttgggtaga  
 600  
 gatgatgcgc ttctcagaaa tgtccagggc attttggaag tgtcaaaggc cagggacatc  
 660  
 cctgttgta tgcacgcgga tggcctgtgg ctggctgctc agcagccggc cctcatccat  
 720  
 ggctaccgga aggtgtgtct cactcccaac cacgtggagt tcagcagact gtatgacgct  
 780  
 gtgctcagag gccctatgga cagcgatgac agccatggat ctgtgctaag actcagccaa  
 840  
 gccctgggca acgtgacggt ggtccagaaa ggagagcgcg acatcctctc caacggccag  
 900  
 caggtgcttg tgtgcagcca ggaaggcagc agccgcaggt gtggagggca aggggacctc  
 960  
 ctgtcgggct ccctgggctt cctgggtacac tgggcgctcc ttgctggacc acagaaaaca  
 1020  
 aatgggtcca gccctctcct ggtggcgcg tttgggcct gctctctcac caggcagtgc  
 1080  
 aaccaccaag ccttccagaa gcacggctgc tccaccacca cctccgacat gatcgccgag  
 1140  
 gtgggggccc ccttcagcaa gctctttgaa acctgagccc gcgcagacca gaagtaaaca  
 1200  
 ggcaccttgg acggggggaga gcgtgtgtgt gatgggaaaa tccggaccca cgcgt  
 1255

<210> 4876  
 <211> 230  
 <212> PRT  
 <213> Homo sapiens

<400> 4876  
 Leu Ala Trp Val Glu Met Ile Val His Pro Val Leu Asp Ser Pro Asn  
 1 5 10 15  
 Ala Val His Glu Val Glu Lys Trp Leu Pro Arg Leu His Ala Leu Val  
 20 25 30  
 Val Gly Thr Gly Leu Gly Arg Asp Ala Leu Leu Arg Asn Val Gln  
 35 40 45  
 Gly Ile Leu Glu Val Ser Lys Ala Arg Asp Ile Pro Val Val Ile Asp  
 50 55 60  
 Ala Asp Gly Leu Trp Leu Val Ala Gln Gln Pro Ala Leu Ile His Gly  
 65 70 75 80  
 Tyr Arg Lys Ala Val Leu Thr Pro Asn His Val Glu Phe Ser Arg Leu  
 85 90 95  
 Tyr Asp Ala Val Leu Arg Gly Pro Met Asp Ser Asp Asp Ser His Gly  
 100 105 110  
 Ser Val Leu Arg Leu Ser Gln Ala Leu Gly Asn Val Thr Val Val Gln  
 115 120 125  
 Lys Gly Glu Arg Asp Ile Leu Ser Asn Gly Gln Gln Val Leu Val Cys  
 130 135 140  
 Ser Gln Glu Gly Ser Ser Arg Arg Cys Gly Gly Gln Gly Asp Leu Leu  
 145 150 155 160  
 Ser Gly Ser Leu Gly Val Leu Val His Trp Ala Leu Leu Ala Gly Pro

				165					170					175					
Gln	Lys	Thr	Asn	Gly	Ser	Ser	Pro	Leu	Leu	Val	Ala	Ala	Phe	Gly	Ala				
			180					185					190						
Cys	Ser	Leu	Thr	Arg	Gln	Cys	Asn	His	Gln	Ala	Phe	Gln	Lys	His	Gly				
		195					200					205							
Arg	Ser	Thr	Thr	Thr	Ser	Asp	Met	Ile	Ala	Glu	Val	Gly	Ala	Ala	Phe				
		210				215					220								
Ser	Lys	Leu	Phe	Glu	Thr														
225					230														

&lt;210&gt; 4877

&lt;211&gt; 1182

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4877

```

nttttttttt ctttgttttt ttaagactct ctcccttgca gcgccatcag ctcagggacc
60
acttgatctt ggtcactgct ccatgccgga gcctgggaag gagcctggcc caggtcgccg
120
gttcaatgaa tgcgtgcgga atgaatgaac gactctagtg aaagagactc caatgacgca
180
ggccgggatt tgcggacacg agccccgcgc cgcaagcat tctggggatt gtagtttctc
240
cgtgacgcgg tgactcgag agcactgacg cactctgcgc ccggaggaca gagcggcccg
300
gtcgccggca tggtttctcc gtctgtctgc agccggcggg aggcagccag tccaggcgcc
360
cgctagcttc ggccggcgacc cagacgggga aagcggaagg aatgtcgcgt gcaagcaggg
420
agctggtgtg gaagaatggc ggtgagccat tcagtgaagg agcggaccat ctctgagaac
480
agcctgatca tcctactgca gggcctccag ggccgggtaa ccactgtgga cctgcgggat
540
gagagcgtgg ccacgggacg catagacaat gtcgatgctt tcatgaacat ccgcctggcc
600
aaagtcacct acacggaccg ttgggggcat caggtaagc tggatgacct ctttgtagaca
660
ggccgcaatg tccgctacgt ccacatccca gatgacgtga acatcacctc gaccattgag
720
cagcagctgc agattatcca tcgggtgcga aactttggtg gcaagggccca aggcgggtgg
780
gaatttcccc caaaaaaact gtaagtgagg ccctcagcaa gccctggccc caactcggag
840
tcctccagtg atctccggag ctagttccct gccctcacac cctgtctggt acccgagaag
900
aaagcagggc caggccagaa gctggtgtcc aacagacacc acctgtcaaa gctgcctttc
960
acagggttcc acctcccaga ctactctgg gaccagaat cctatatgtg gccttggggg
1020
aggtgacaat cccctttttt gatgatctga atctctgact tattgattat ggaacctgtc
1080
aagtagtttt caactctccc agtgaggata attaaacatg ctcagcctga gccacctcta
1140

```

agtgtctcca tttctcatgc agttgtgttc attttctcat ga  
1182

<210> 4878

<211> 122

<212> PRT

<213> Homo sapiens

<400> 4878

Met	Ala	Val	Ser	His	Ser	Val	Lys	Glu	Arg	Thr	Ile	Ser	Glu	Asn	Ser
1				5					10					15	
Leu	Ile	Ile	Leu	Leu	Gln	Gly	Leu	Gln	Gly	Arg	Val	Thr	Thr	Val	Asp
		20						25					30		
Leu	Arg	Asp	Glu	Ser	Val	Ala	His	Gly	Arg	Ile	Asp	Asn	Val	Asp	Ala
		35					40					45			
Phe	Met	Asn	Ile	Arg	Leu	Ala	Lys	Val	Thr	Tyr	Thr	Asp	Arg	Trp	Gly
	50					55					60				
His	Gln	Val	Lys	Leu	Asp	Asp	Leu	Phe	Val	Thr	Gly	Arg	Asn	Val	Arg
	65			70						75				80	
Tyr	Val	His	Ile	Pro	Asp	Asp	Val	Asn	Ile	Thr	Ser	Thr	Ile	Glu	Gln
			85					90						95	
Gln	Leu	Gln	Ile	Ile	His	Arg	Val	Arg	Asn	Phe	Gly	Gly	Lys	Gly	Gln
			100					105						110	
Gly	Arg	Trp	Glu	Phe	Pro	Pro	Lys	Lys	Leu						
		115						120							

<210> 4879

<211> 1941

<212> DNA

<213> Homo sapiens

<400> 4879

gttctgggttc gccatcagca tcgccatcaa caatgcctac atcctgtaca aaatgtcaga  
60  
cgcctaccac gtgaagaggt acagccgggc gcagtttgga gagagactcg tcagagagct  
120  
gctgggcttg gaggatgcct ctccgaccca ctgatgctgg gggcgcagga ctcggtcaag  
180  
ggaggggcaa gaggaggagg agagcctgcc gttccaactt gcccatcaga gacccggaca  
240  
cggcctggtg tgtggcttgc tgccctgggag ggatgcacag ggcctcctga gggacaggat  
300  
ggacctggtc agaggacggt tgctgtcctc atttgctttc caagaagagc atgtcctccc  
360  
tcgagaaaca gtgccggcgg tgtgatgagc acttacaccc acgttctcaa gggcagattc  
420  
tctcatgaca tccgtggagc ttgcgaggca gcgtggactg gtgactgtga aggaaggccc  
480  
ccgtggtaga atgagctgga gcacgctcta agagagatgc ctgcttctta aagatctaca  
540  
gcaatctggg acgtgggttca agttcaagac ttgaaggaag caaagacgcc ctgcatgggt  
600  
acaatggctc aggtgtcagg ggaggccgga ggttttccag catttgctc atgccagcac  
660

```

ctttgaaccg gtctcttaga agaagacaca catcctgggt gtacagtgggt gaaatgggga
720
gtgggtgccc attctgaaaa acgaggcatt cctgctcatt ccctctgctt agctgggtggg
780
caggggagag agggaaatgc caaaaacttg gagtgaagga tgatgctatt ttttattttt
840
aaatatatct tcaggttatt ttcttactgt tgcttcagat ctaatgtaaa aggcagatgt
900
ccctcctctt ccacccccga cgctgacccc ggcttcagtc acggctcttt gcatgatcac
960
agttctgtgt tctggcctgt ggcagggccg ggaagggccg ctggcttccg aacagacgtg
1020
gttgctctcc acgaggcgca tggggagccc gcgggcccta agctttgtcg cagatgtcat
1080
cattggcaga attacttgct ttgaaaaata agtagcattg ctgaaacaca caaccgaatt
1140
ctctacgatg gccatttgct cattgtcttt cctctgtgtg tagtgagtga ccctggcagt
1200
gtttgcctgc tcagagtggc ccctcagaac aacagggctg gccttgga aaacccaaaa
1260
caggactgtg gtgacaactc tggtcagggtg tgatttgaca tgagggccgg aggcgggtgc
1320
tgacggcagg actggagagg ctgcgtgccc ggcaactggca gcgaggctcg tgtgtcccc
1380
aggcagatct gggcactttc ccaaccagg tttatgcgtc tccagggag cctcgggtgc
1440
agagtgggtg gcagatctga ccatccccac agaccagaaa caaggaattt ctgggattac
1500
ccagtcccc ttcaaccag ttgatgtaac cacctcattt ttacaaaata cagaatctat
1560
tctactcagg ctatgggcct cgtcctcact cagttattgc gagtggtgct gtccgcatgc
1620
tccgggcccc acgtggctcc tgtgctctag atcatggtga ctccccgcc ctgtgggtgg
1680
aatcgatgcc acggattgca ggccaaattt cagatcgtgt ttccaaacac cttgctgtg
1740
ccctttaatg ggattgaaag cacttttacc acatggagaa atatattttt aatttgtgat
1800
gcttttctac aagggtccact atttctgagt ttaatgtgtt tccaacactt aaggagactc
1860
taatgaaagc tgatgaattt tcttttctgt ccaaacaagt aaaataaaaa taaaagtcta
1920
tttagatggt gaaaaaaaaa a
1941

```

&lt;210&gt; 4880

&lt;211&gt; 202

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4880

```

Met Val Arg Ser Ala His His Ser Gly Thr Glu Ala Ser Leu Glu Thr
  1           5           10          15
His Lys Pro Gly Leu Gly Lys Cys Pro Asp Leu Pro Gly Gly His Thr

```

20 25 30  
 Ser Leu Ala Ala Ser Ala Gly His Ala Ala Ser Pro Val Leu Pro Ser  
 35 40 45  
 Ala Thr Ala Ser Gly Pro His Val Lys Ser His Leu Thr Arg Val Val  
 50 55 60  
 Thr Thr Val Leu Phe Trp Gly Phe Ser Lys Ala Ser Pro Val Val Leu  
 65 70 75 80  
 Arg Gly His Ser Glu Gln Ala Asn Thr Ala Arg Val Thr His Tyr Thr  
 85 90 95  
 Gln Arg Lys Asp Asn Glu Gln Met Ala Ile Val Glu Asn Ser Val Val  
 100 105 110  
 Cys Phe Ser Asn Ala Thr Tyr Phe Ser Arg Gln Val Ile Leu Pro Met  
 115 120 125  
 Met Thr Ser Ala Thr Lys Leu Arg Ala Arg Gly Leu Pro Met Arg Leu  
 130 135 140  
 Val Glu Ser Asn His Val Cys Ser Glu Ala Ser Gly Pro Ser Arg Pro  
 145 150 155 160  
 Cys His Arg Pro Glu His Arg Thr Val Ile Met Gln Arg Ala Val Thr  
 165 170 175  
 Glu Ala Gly Val Ser Val Gly Gly Gly Glu Glu Gly Thr Ser Ala Phe  
 180 185 190  
 Tyr Ile Arg Ser Glu Ala Thr Val Arg Lys  
 195 200

<210> 4881  
 <211> 1333  
 <212> DNA  
 <213> Homo sapiens

<400> 4881  
 nntttttttt ttacatgtga gtcattcttt attagggagg aagcaagcag ggaagccaca  
 60  
 ggggtagaga acaggggtcac ctctccactc ccgcccctcc catttctccc ctcccaacct  
 120  
 ctaggttttg gatacatgac gcagcaactg atgaacctgg caggaggcgc agtggtgctg  
 180  
 gccttgaggg gtggccatga cctcacagcc atctgtgacg cctctgaggc ctgtgtggct  
 240  
 gctcttctgg gtaacagggt gagcgtctc cctcccccat ccatgcttct gtcaggcagg  
 300  
 taagcccggc tctcaggact acccaaggaa caggcagatg ggatgggaca ggggtgggagt  
 360  
 ggccaagcct gaaacaaggt aggcgaagcg aaagcctctg ttccaagtta ggtccaggca  
 420  
 gcatctcctg gcctaggtag agtgtgcttg tggctagaag gctggggccc ctgggggtggg  
 480  
 agtgagctgg gcctgtgggt ccctgaaaga ctggtggctg atgtactgtt ttctataggt  
 540  
 ggatccgggt tgaggaagaa gctggaaaca gaaacccaac ctcaatgcca tccgctctct  
 600  
 ggaggccgtg atccgggtgc acagtaagtg tggagatggg acactcgctg agctcagact  
 660  
 gaaggatctt ggtggtacct tgccccaccg tggccagatc ctagggtctc cgggtgccagc  
 720

caggtgacct gctgttggtc tggagtaaga ttctgtgag tgaccaggc agcaatggta  
 780  
 aatactgggg ctgcatgcag cgctggcct cctgtccaga ctctgggtg cctagagtgc  
 840  
 caggggctga caaagaagaa gtggaggcag tgaccgcact ggcgtccctc tctgtgggca  
 900  
 tcctggctga agataggtaa tgccagacnc tgggccctgg gccgcagcc tctccaccgc  
 960  
 ttcattcctc cctgcttgaa gaccccggtt ccgctatgca gccaccccaa ccctcccagg  
 1020  
 cttcctgacc aggggttgaga ggaagcttag ctaaggccct tgctgcagcc ctggtgctcc  
 1080  
 agcatcccac cctgtgccct cccacaggc cctcggagca gctggtggag gaggaagaac  
 1140  
 ctatgaatct ctaaggctct ggaaccatct gccgcccac catgcccttg ggacctggtt  
 1200  
 ctcttctaac ccctggcaat agccccatt cctgggtctt tagagatcct gtgggcaagt  
 1260  
 agttggaacc agagaacagc ctgcctgctt tgacagttat cccagggagc gtgagaaaat  
 1320  
 ccctgggtct aga  
 1333

<210> 4882  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 4882  
 Xaa Phe Phe Phe Thr Cys Glu Ser Phe Phe Ile Arg Glu Glu Ala Ser  
 1 5 10 15  
 Arg Glu Ala Thr Gly Val Glu Asn Arg Val Thr Ser Pro Leu Pro Pro  
 20 25 30  
 Leu Pro Phe Leu Pro Ser Gln Pro Leu Gly Phe Gly Tyr Met Thr Gln  
 35 40 45  
 Gln Leu Met Asn Leu Ala Gly Gly Ala Val Val Leu Ala Leu Glu Gly  
 50 55 60  
 Gly His Asp Leu Thr Ala Ile Cys Asp Ala Ser Glu Ala Cys Val Ala  
 65 70 75 80  
 Ala Leu Leu Gly Asn Arg Val Ser Arg Leu Pro Pro Pro Ser Met Leu  
 85 90 95  
 Leu Ser Gly Arg  
 100

<210> 4883  
 <211> 1371  
 <212> DNA  
 <213> Homo sapiens

<400> 4883  
 nnagatctaa cagagaacct ggactgtctc ctatcatgat tcccgggaaa tategctctg  
 60  
 tttctggccg ggctgcgaac aacgtgaact gcgggcttca tctggttatt caaacatcat  
 120

cgcttcctga aaaaaacaaa acaaaagctg accgtatgtc ctatcatcaa tggggaagac  
 180  
 caccttcggt tgttgaactt tcaacacaat tttataactc ggatacaaaa tattttcta  
 240  
 ctacagaagt taatatcggt ggattttatat gataaccaga ttgaagaaat tagtgggctt  
 300  
 tcgactctga gatgtcttcg tgccttctg ttggggaaaa acagaatcaa gaaaatctca  
 360  
 aatctggaga atctaaaaag cttagatgtc ttggatcttc atggaaatca gattaccaa  
 420  
 attgaaaata ttaatcattt gtgtgagttg agagttttaa atcttgccag gaacttttta  
 480  
 agtcatgttg ataattctaa tgggctggat tcactaactg aacttaactt gcgacacaat  
 540  
 caaatcactt tcgtgagaga tgtggataat ttgcctgcc tccaacatct ctttctcagc  
 600  
 tttacaata tatctagttt tgacagtgtt tcctgccttg ctgactcttc ttcctctcg  
 660  
 gacatcacct ttgatggcaa tcccatagct caagagtcac ggtacaaaca cactgtcctt  
 720  
 cagaatatga tgcagctgcg ccagctagat atgaagagaa tcacggaaga agaaaggcgt  
 780  
 atggcatctg ttttagccaa aaaagaggaa gagaagaagc gggaaagtca taaacaatct  
 840  
 ttgcttaagg agaagaaaag gttaacaatt aacaacgtag ctcgacagtg ggacttgcaa  
 900  
 caacgagtag ccaatattgc taaaaatgaa gatagaaaag attctgactc tcctcaggac  
 960  
 ccctgtcaga ttgatggaag caccctctct gcattcccag aggaaacagg gcctctagac  
 1020  
 tcaggactca acaatgcttt acaagggttta tctgtcatag acacatacct tgttgaagt  
 1080  
 gacggggata cactttccct atatggctca ggagcactgg aatctctgga taggaattgg  
 1140  
 agtgttcaaa cagcaggaat gatcacaaca gtctccttca ctttcataga atttgatgaa  
 1200  
 atcgtccaag tgcttcttaa actgaagatt aagtttctta attctctgca ccttaaattc  
 1260  
 aaggaaacaa atcttgtaat gcagcaattt aacgcactag cccaactccg tcggtattga  
 1320  
 ccagttggac aattgatcct caaggaaatc cagttgggtcc attttaacac t  
 1371

<210> 4884<211> 410

<212> PRT

<213> Homo sapiens

<400> 4884

Thr	Ala	Gly	Phe	Ile	Trp	Leu	Phe	Lys	His	His	Arg	Phe	Leu	Lys	Lys
1				5				10						15	
Thr	Lys	Gln	Lys	Leu	Thr	Val	Cys	Pro	Ile	Ile	Asn	Gly	Glu	Asp	His
		20					25					30			
Leu	Arg	Leu	Leu	Asn	Phe	Gln	His	Asn	Phe	Ile	Thr	Arg	Ile	Gln	Asn
	35					40						45			



```

Ile Ser Asn Leu Gln Lys Leu Ile Ser Leu Asp Leu Tyr Asp Asn Gln
 50          55          60
Ile Glu Glu Ile Ser Gly Leu Ser Thr Leu Arg Cys Leu Arg Val Leu
65          70          75          80
Leu Leu Gly Lys Asn Arg Ile Lys Lys Ile Ser Asn Leu Glu Asn Leu
          85          90          95
Lys Ser Leu Asp Val Leu Asp Leu His Gly Asn Gln Ile Thr Lys Ile
          100          105          110
Glu Asn Ile Asn His Leu Cys Glu Leu Arg Val Leu Asn Leu Ala Arg
          115          120          125
Asn Phe Leu Ser His Val Asp Asn Leu Asn Gly Leu Asp Ser Leu Thr
          130          135          140
Glu Leu Asn Leu Arg His Asn Gln Ile Thr Phe Val Arg Asp Val Asp
145          150          155          160
Asn Leu Pro Cys Leu Gln His Leu Phe Leu Ser Phe Asn Asn Ile Ser
          165          170          175
Ser Phe Asp Ser Val Ser Cys Leu Ala Asp Ser Ser Ser Leu Ser Asp
          180          185          190
Ile Thr Phe Asp Gly Asn Pro Ile Ala Gln Glu Ser Trp Tyr Lys His
          195          200          205
Thr Val Leu Gln Asn Met Met Gln Leu Arg Gln Leu Asp Met Lys Arg
          210          215          220
Ile Thr Glu Glu Glu Arg Arg Met Ala Ser Val Leu Ala Lys Lys Glu
225          230          235          240
Glu Glu Lys Lys Arg Glu Ser His Lys Gln Ser Leu Leu Lys Glu Lys
          245          250          255
Lys Arg Leu Thr Ile Asn Asn Val Ala Arg Gln Trp Asp Leu Gln Gln
          260          265          270
Arg Val Ala Asn Ile Ala Thr Asn Glu Asp Arg Lys Asp Ser Asp Ser
          275          280          285
Pro Gln Asp Pro Cys Gln Ile Asp Gly Ser Thr Leu Ser Ala Phe Pro
          290          295          300
Glu Glu Thr Gly Pro Leu Asp Ser Gly Leu Asn Asn Ala Leu Gln Gly
305          310          315          320
Leu Ser Val Ile Asp Thr Tyr Leu Val Glu Val Asp Gly Asp Thr Leu
          325          330          335
Ser Leu Tyr Gly Ser Gly Ala Leu Glu Ser Leu Asp Arg Asn Trp Ser
          340          345          350
Val Gln Thr Ala Gly Met Ile Thr Thr Val Ser Phe Thr Phe Ile Glu
          355          360          365
Phe Asp Glu Ile Val Gln Val Leu Pro Lys Leu Lys Ile Lys Phe Pro
          370          375          380
Asn Ser Leu His Leu Lys Phe Lys Glu Thr Asn Leu Val Met Gln Gln
385          390          395          400
Phe Asn Ala Leu Ala Gln Leu Arg Arg Tyr
          405          410

```

&lt;210&gt; 4885

&lt;211&gt; 489

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4885

cttagaagg aaaatatggc tgctctttgc cggacagcag agtcccagaa ccccatgcag  
 60  
 gtgtttcagg gctttatgtc attcaaggat gtggctgtga acttcactag gnaagaatgg  
 120  
 agagaactgg accttgctca gagagtcttg tacagggatg taatgctgga gaactatagg  
 180  
 aacctggtct ccttggtagg atttccattt tccaaacctg gtatcatctc ctagttggaa  
 240  
 gaagtggtaa gcccacgaac acaaatgcag gagggagagg tgccaagaag cagcggtaga  
 300  
 cgagaaagac agggctggag accagtttgc tgatagtga cccaaccag aaaagttcat  
 360  
 tgggctgcac cctccagtag aactggacct gaggcagcta ggaataggat gcatgtttct  
 420  
 gaccctggcc aggatcagaa agaaggaaac ctctcctgag ggtcttcagc agtggaagag  
 480  
 ggcagtcag  
 489

&lt;210&gt; 4886

&lt;211&gt; 77

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4886

Leu	Lys	Lys	Glu	Asn	Met	Ala	Ala	Leu	Cys	Arg	Thr	Ala	Glu	Ser	Gln
1				5					10					15	
Asn	Pro	Met	Gln	Val	Phe	Gln	Gly	Phe	Met	Ser	Phe	Lys	Asp	Val	Ala
			20					25					30		
Val	Asn	Phe	Thr	Arg	Xaa	Glu	Trp	Arg	Glu	Leu	Asp	Leu	Ala	Gln	Arg
			35				40					45			
Val	Leu	Tyr	Arg	Asp	Val	Met	Leu	Glu	Asn	Tyr	Arg	Asn	Leu	Val	Ser
	50					55				60					
Leu	Val	Gly	Phe	Pro	Phe	Ser	Lys	Pro	Gly	Ile	Ile	Ser			
65				70						75					

&lt;210&gt; 4887

&lt;211&gt; 2271

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4887

nntttttttt tttttttttt aaagggacac ctgcaccccc atgtttattg cagcaatatt  
 60  
 cacaatagcc ttgtagtttt agcgcttaga ggcattttaa cagcctctct cctccagact  
 120  
 acttcactgt agtttattat ccctgaccct ccacaatgtg attaccaacc gctaggatga  
 180  
 gttgcattctt attataaagt agcaaattac aagattgtaa cattagactt ttttaagaaaa  
 240  
 tccagtcagc ttttatacta atccatctta atttctaggt tactcagaat tccaggtatt  
 300  
 ctgatttgga ctcacatctc gtattgtatt gcctgtattt aactaggaag ttactgccaa  
 360

cagcatctat ctctattaaa tgtagaggaa ttgacaaaag aggggaaaga aagttgttag  
420  
gtaatagaac tgcttcagaa atagggctat tcatgtttga agtgtttctc cttcgttttt  
480  
cagggcatct cattgggaga tattcctctt ccaggcagta tcagtgatgg catgaattct  
540  
tcagcacatt atcatgtaaa cttcagccag gctataagtc aggatgtgaa tcttcatgag  
600  
gccatcttgc tttgtcccaa caatacattt agaagagatc caacagcaag gacttcacag  
660  
tcacaagaac catttctgca gttaaattct cataccacca atcctgagca aacccttct  
720  
ggaactaatt tgacaggatt tctttcaccg gttgacaatc atatgaggaa tctaacaagc  
780  
caagacctac tgtatgacct tgacataaat atatttgatg agataaactt aatgtcattg  
840  
gccacagaag acaactttga tccaatcgat gtttctcagc tttttgatga accagattct  
900  
gattctggcc tttctttaga ttcaagtcac aataatacct ctgtcatcaa gtctaattcc  
960  
tctcactctg tgtgtgatga aggtgctata gggtattgca ctgaccatga atctagttcc  
1020  
catcatgact tagaagggtgc tgtaggtggc tactaccag aaccagtaa gctttgtcac  
1080  
ttggatcaaa gtgattctga tttccatgga gatcttcat ttcaacacgt atttcataac  
1140  
cacacttacc acttacagcc aactgcacca gaatctactt ctgacncttt tccgnntgct  
1200  
gggaagtcac agaagataag gagtagatac cttgaagacc cagatagaac cttaagccgt  
1260  
gatgaccagc gtgctaaagc tttgcatatc cctttttctg tagatgaaat tgtcggcatg  
1320  
cctgttgatt ctttcaatag catgttaagt agatattatc tgacagacct acaagtctca  
1380  
cttatccgtg acatcagacg aagaggggaaa aataaagttg ctgctgcagaa ctgtcgtaaa  
1440  
cgcaaattgg acataatttt gaatttagaa gatgatgtat gtaacttgca agcaaagaag  
1500  
gaaactctta agagagagca agcacaatgt aacaaagcta ttaacataat gaaacagaaa  
1560  
ctgcatgacc tttatcatga tatttttagt agattaagag atgaccaagg taggccagtc  
1620  
aatcccaacc actatgctct ccagtgtacc catgatggaa gtatcttgat agtaccctaa  
1680  
gaactggtgg cctcaggcca caaaaaggaa acccaaaagg gaaagagaaa gtgagaagaa  
1740  
actgaagatg gactctatta tgtgaagtag taatgttcag aaactgatta tttggatcag  
1800  
aaaccattga aactgcttca agaattgtat ctttaagtac tgctacttga ataactcagt  
1860  
taacgctgtt ttgaagctta catggacaaa tgtttaggac ttcaagatca cacttggtggg  
1920  
caatctgggg gagccacaac ttttcatgaa gtgcattgta taaaaattc atagttatgt  
1980

ccaaagaata ggtaacatg aaaacccagt aagactttcc atcttggcag ccatacctttt  
 2040  
 taagagtaag ttggttactt caaaaagagc aaacactggg gatcaaatta ttttaagagg  
 2100  
 tatttcagtt ttaaagtcaa aatagcctta ttttcattta gtttggttagc actatagtga  
 2160  
 gcttttcaaa cactatttta atctttatat ttaacttata aattttgctt tctatggaaa  
 2220  
 taaattttgt atttgtatta aaaattaact tttccctttt aaaaaaaaaa a  
 2271

<210> 4888

<211> 429

<212> PRT

<213> Homo sapiens

<400> 4888

Gly	Tyr	Ser	Cys	Leu	Lys	Cys	Phe	Ser	Phe	Val	Phe	Gln	Gly	Ile	Ser	1	5	10	15
Leu	Gly	Asp	Ile	Pro	Leu	Pro	Gly	Ser	Ile	Ser	Asp	Gly	Met	Asn	Ser	20	25	30	
Ser	Ala	His	Tyr	His	Val	Asn	Phe	Ser	Gln	Ala	Ile	Ser	Gln	Asp	Val	35	40	45	
Asn	Leu	His	Glu	Ala	Ile	Leu	Leu	Cys	Pro	Asn	Asn	Thr	Phe	Arg	Arg	50	55	60	
Asp	Pro	Thr	Ala	Arg	Thr	Ser	Gln	Ser	Gln	Glu	Pro	Phe	Leu	Gln	Leu	65	70	75	80
Asn	Ser	His	Thr	Thr	Asn	Pro	Glu	Gln	Thr	Leu	Pro	Gly	Thr	Asn	Leu	85	90	95	
Thr	Gly	Phe	Leu	Ser	Pro	Val	Asp	Asn	His	Met	Arg	Asn	Leu	Thr	Ser	100	105	110	
Gln	Asp	Leu	Leu	Tyr	Asp	Leu	Asp	Ile	Asn	Ile	Phe	Asp	Glu	Ile	Asn	115	120	125	
Leu	Met	Ser	Leu	Ala	Thr	Glu	Asp	Asn	Phe	Asp	Pro	Ile	Asp	Val	Ser	130	135	140	
Gln	Leu	Phe	Asp	Glu	Pro	Asp	Ser	Asp	Ser	Gly	Leu	Ser	Leu	Asp	Ser	145	150	155	160
Ser	His	Asn	Asn	Thr	Ser	Val	Ile	Lys	Ser	Asn	Ser	Ser	His	Ser	Val	165	170	175	
Cys	Asp	Glu	Gly	Ala	Ile	Gly	Tyr	Cys	Thr	Asp	His	Glu	Ser	Ser	Ser	180	185	190	
His	His	Asp	Leu	Glu	Gly	Ala	Val	Gly	Gly	Tyr	Tyr	Pro	Glu	Pro	Ser	195	200	205	
Lys	Leu	Cys	His	Leu	Asp	Gln	Ser	Asp	Ser	Asp	Phe	His	Gly	Asp	Leu	210	215	220	
Thr	Phe	Gln	His	Val	Phe	His	Asn	His	Thr	Tyr	His	Leu	Gln	Pro	Thr	225	230	235	240
Ala	Pro	Glu	Ser	Thr	Ser	Asp	Xaa	Phe	Pro	Xaa	Ala	Gly	Lys	Ser	Gln	245	250	255	
Lys	Ile	Arg	Ser	Arg	Tyr	Leu	Glu	Asp	Pro	Asp	Arg	Thr	Leu	Ser	Arg	260	265	270	
Asp	Asp	Gln	Arg	Ala	Lys	Ala	Leu	His	Ile	Pro	Phe	Ser	Val	Asp	Glu	275	280	285	
Ile	Val	Gly	Met	Pro	Val	Asp	Ser	Phe	Asn	Ser	Met	Leu	Ser	Arg	Tyr				

290		295		300
Tyr Leu Thr Asp Leu Gln Val Ser Leu Ile Arg Asp Ile Arg Arg Arg				
305		310		315
Gly Lys Asn Lys Val Ala Ala Gln Asn Cys Arg Lys Arg Lys Leu Asp				320
	325		330	335
Ile Ile Leu Asn Leu Glu Asp Asp Val Cys Asn Leu Gln Ala Lys Lys				
	340		345	350
Glu Thr Leu Lys Arg Glu Gln Ala Gln Cys Asn Lys Ala Ile Asn Ile				
	355		360	365
Met Lys Gln Lys Leu His Asp Leu Tyr His Asp Ile Phe Ser Arg Leu				
	370		375	380
Arg Asp Asp Gln Gly Arg Pro Val Asn Pro Asn His Tyr Ala Leu Gln				
385		390		395
Cys Thr His Asp Gly Ser Ile Leu Ile Val Pro Lys Glu Leu Val Ala				400
	405		410	415
Ser Gly His Lys Lys Glu Thr Gln Lys Gly Lys Arg Lys				
	420		425	

&lt;210&gt; 4889

&lt;211&gt; 619

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4889

```

nntgtttttc actttattat acaaaaaagg gaaaacaaaa cttccacagt tggctttaag
60
cataggcaga cacctctaag ccactccctc ccacctccca tgatacaaat tcaagttgtg
120
gtggttgttg aatcctacaa aacactcctt aaatattaga aaagaagtta ggagctccca
180
gcacatttct tgaagcccag gttctgagcc tgggggtggcc aggcttggcc tctcagatga
240
acagggggaga ctttttccat caaatacaag ctttaagctt cacaccatct tgctgcctt
300
tccgccttcc tgctggacaa tggagaccag cagctcggat gcatgtgact ctggcagagg
360
gagcctggtc tgggaagcat ccgagaatgg cttcagcaca ctccccctaa tggaatcaga
420
gactgggcaa aacagaggat gtggagaacg gggcagcctc agcctgctcc caccagggtc
480
aacatctccc ggccctcacc gacccttttt ccagattcac aacaaactga tgtgggctct
540
aggacagacc cttttacaca cacacacaca cactcacact cttttgcaca catccacagc
600
tgcacccatg ctatgtaca
619

```

&lt;210&gt; 4890

&lt;211&gt; 90

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4890

Leu Trp Gln Arg Glu Pro Gly Leu Gly Ser Ile Arg Glu Trp Leu Gln

1	5	10	15
His Thr Pro Pro Asn Gly Ile Arg Asp Trp Ala Lys Gln Arg Met Trp			
20	25	30	
Arg Thr Gly Gln Pro Gln Pro Ala Pro Thr Arg Val Asn Ile Ser Arg			
35	40	45	
Pro Ser Pro Thr Leu Phe Pro Asp Ser Gln Gln Thr Asp Val Gly Ser			
50	55	60	
Arg Thr Asp Pro Phe Thr His Thr His Thr His Ser His Ser Phe Ala			
65	70	75	80
His Ile His Ser Cys Thr His Ala Met Tyr			
85	90		

&lt;210&gt; 4891

&lt;211&gt; 1998

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4891

```

ngggcaggac tgggtgggaca cagaagcggc cacagcctga cttgcaacat ttttctccag
60
cttgacaatt ctcatccatc acacagccaa caatgcacag gccaccaga acttttggag
120
aatcaccgcc ccgccctccc tcaatgtctc cgaggcaggt gcggccacag ccggtgctgc
180
agcatttatg cccctgggga caggatgcat ccccatcaca cagctcctca cacggaaggg
240
ggtcagcggg acattcacca ccaaactcct taggaatgtc tcggcagatc cgaccacagc
300
ctgtggtgca gcacttctgt tcagccggac acaattcatc gccctggcac agctctttgc
360
atggggttctt atcgggaggg cattctccct cttttgaagg cctctaagtg taactgtcct
420
gggcgagggc cggcgggttcg gttcccatgg taaccccgca gctccagcgt cgcgcttccg
480
ggcggacgag cagcgcgctc cagtgcgctc acggcgccac tttccggccg gtgacagagt
540
ccagcggagt tgtggggggc gggggcgcca tgggagccac tggcgacgcc gagcagccgc
600
ggggacctag cggggccgag aggggaggct tggagctggg ggatgcgggc gcagcggggc
660
agctggttct tacggtgagg gcgccccga acccttgga cataatgata aagcaccggc
720
aggcgcagcg gaggggcccgc cgctcacaga tgacaacaag tttcacagat cctgccatct
780
ccatggatct cctccgagct gtcctgcagc ccagcatcaa cgaggagatc cagactgtct
840
tcaacaagta cataaagttc ttccagaagg cagcactgaa cgtgcgagac aatgttgggg
900
aggaggtgga cgcagagcag ctgatccagg aagcctgtcg gagctgcctg gagcaggcta
960
naactgctct tttcagatgg agaaaaagta ataccagat tgacccatga gcttccagga
1020
ataaagcgtg gccgtcaggc agaagaagaa tgtgcccac gaggaagccc ctttctctaa
1080

```

aagaggaaag gacggcctcc tggacacatc ctgtcaagcg accgggcagc cgccggcatg  
 1140  
 gtatggaaac caaaatcctg tgaaccaatt cgccgggaag gcccgaagtg ggacccagct  
 1200  
 cgctgaatg aatctaccac ctttgtgttg ggatctcgag ccaacaaagc cctggggatg  
 1260  
 gggggcacca gaggaagaat ctacatcaag caccacacacc tctttaagta tgcagctgac  
 1320  
 ccccaggata agcactggct ggctgagcag catcacatgc gggcaacagg gggcaagatg  
 1380  
 gcctacctcc tcatcgagga ggacatccgg gaccttgagg ccagtgatga ttacagagga  
 1440  
 tgcttgatc tgaagctaga ggaattgaaa tcctttgtcc taccctcctg gatgggtggag  
 1500  
 aagatgagaa agtatatgga gacactacgg acagagaatg agcatcgtgc tgttgaagca  
 1560  
 cctccacaga cctgaggccg ggtcccctgg ccacacttgg cagccctcct ccaaagccct  
 1620  
 cttcctcacg tggctgaggc caccgctggg actgctccta gatggatctc agcggcatta  
 1680  
 agctgtgcct gacgagttt gtagtgactc actgcacagc acccccagac tagcatgtgg  
 1740  
 ttctatatatt gtaaagttat tgggataaga aacaattaaa cagttttagt taaacacaga  
 1800  
 tggatgaacct gctgtgcct ctaccttgtg ggaattgaca gaacatcaag ggctctagaa  
 1860  
 gtgggttagt gaaaaaagga cgagataacc ctcaccata acagtataga gccaggcttg  
 1920  
 ataagaccaa cctgggagca ccattgtacc tgcccgctct cctttgccc attttagt  
 1980  
 tccttaccga gctaattg  
 1998

&lt;210&gt; 4892

&lt;211&gt; 216

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4892

Ser	Arg	Lys	Pro	Val	Gly	Ala	Ala	Trp	Ser	Arg	Leu	Xaa	Leu	Leu	Phe
1				5					10				15		
Ser	Asp	Gly	Glu	Lys	Val	Ile	Pro	Arg	Leu	Thr	His	Glu	Leu	Pro	Gly
		20						25				30			
Ile	Lys	Arg	Gly	Arg	Gln	Ala	Glu	Glu	Glu	Cys	Ala	His	Arg	Gly	Ser
		35				40					45				
Pro	Leu	Pro	Lys	Lys	Arg	Lys	Gly	Arg	Pro	Pro	Gly	His	Ile	Leu	Ser
		50				55					60				
Ser	Asp	Arg	Ala	Ala	Ala	Gly	Met	Val	Trp	Lys	Pro	Lys	Ser	Cys	Glu
65				70					75					80	
Pro	Ile	Arg	Arg	Glu	Gly	Pro	Lys	Trp	Asp	Pro	Ala	Arg	Leu	Asn	Glu
			85					90					95		
Ser	Thr	Thr	Phe	Val	Leu	Gly	Ser	Arg	Ala	Asn	Lys	Ala	Leu	Gly	Met
			100					105					110		
Gly	Gly	Thr	Arg	Gly	Arg	Ile	Tyr	Ile	Lys	His	Pro	His	Leu	Phe	Lys

	115		120		125										
Tyr	Ala	Ala	Asp	Pro	Gln	Asp	Lys	His	Trp	Leu	Ala	Glu	Gln	His	His
	130					135					140				
Met	Arg	Ala	Thr	Gly	Gly	Lys	Met	Ala	Tyr	Leu	Leu	Ile	Glu	Glu	Asp
145					150					155					160
Ile	Arg	Asp	Leu	Ala	Ala	Ser	Asp	Asp	Tyr	Arg	Gly	Cys	Leu	Asp	Leu
			165					170					175		
Lys	Leu	Glu	Glu	Leu	Lys	Ser	Phe	Val	Leu	Pro	Ser	Trp	Met	Val	Glu
		180						185					190		
Lys	Met	Arg	Lys	Tyr	Met	Glu	Thr	Leu	Arg	Thr	Glu	Asn	Glu	His	Arg
	195						200					205			
Ala	Val	Glu	Ala	Pro	Pro	Gln	Thr								
	210					215									

&lt;210&gt; 4893

&lt;211&gt; 5212

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4893

```

nnctaaagga gtcccctgga aggcctccac aacctcacgc tagagtcaag aatggatatg
60
ttcagcttgg atatgatcat cagtgaccca gctgcagaag ccagcagggc tgggaagaag
120
cagctcagag gtgttcagaa cccttgccca tctgccagag ccagaccccg gcacaagtcc
180
ctcaacataa aggacaagat atcagaatgg gaagggaaga aagaggtgcc cactcctgca
240
cccagcagga gagcagacgg acaggaggat tatctgccgt cctctacggt ggagaggagg
300
agtagtgatg gggtgagaac tcaggtcaca gaggctaaga atggaatgag gccaggaaca
360
gagagcacag agaaggagag gaataaagga gcagtgaacg tcggggggaca ggaccagag
420
cgggggcaag acctaagcca gccagaacgg gaagtggatc ctagctgggg ccgaggccga
480
gagccaagac ttggcaagct gcgctttcag aacgatcacc tctccgtgct gaagcaggtc
540
aagaaactcg agcaggcttt gaaggatggg tcggcagggc tggatcccca gttaccaggg
600
acttgttact cccacactg ccctcctgac aaggcagagg cagggtccac ccttcctgag
660
aacctgggag gcgggagtgg ctcagaagtc agccagaggg tccaccctc ggacctggaa
720
ggcagggagc ccacccctga gcttgtggag gacaggaaag gttcatgcag aaggccctgg
780
gaccggagcc ttgagaacgt gtataggggc tcggagggtt ccccccacaa gcccttcac
840
aacctctgc caaaaccccg gagaacgttc aaacatgccg gagaagggga caaagatggg
900
aagcctggca tcggcttcag gaaagagaaa agaaatctgc ctctctgcc ctctctacct
960
ccccgcctc tgcctcctc tccccacct tcctctgtga acagaagact gtggaccggg
1020

```



agacagaaat ccagtgcaga ccacagaaag tcctatgagt ttgaagattt actgcagtct  
1080  
tcctctgaga gcagcagggg ggactggtac ggcagacta agctggggct gacacgcact  
1140  
ttatcggagg agaacgtcta tgaagacatt ctatgatccgc caatgaagga gaacccttat  
1200  
gaggacatcg agttacatgg tcgctgcctg ggaaagaagn ntgtgtcttg aattttcctg  
1260  
cttctcccac ctnttccat ccctgacaca ctcaccaagc agtcattgtc caaacctgct  
1320  
tttttccgac aaaattcaga gaggaggaac ttcaagctgc tggacactag gaagctgagt  
1380  
cgggatggaa ctgggtcccc ttccaaaatc agccctccct ccactcccag cagccctgat  
1440  
gacattttct ttaaccttgg agaccacag aacggcagga agaagagaaa gatacccaag  
1500  
ctggtgttgc gaatcaacgc catttatgag gtccggagag gaaagaaacg ggtgaagagg  
1560  
ctgtcccagt caatggagag caactcagga aaagtgcag atgagaacag tgagtctgac  
1620  
agtgcacag aggagaagct gaaagctcac agccagcgcc tggtaacgt gaagtcccg  
1680  
ctgaagcagg cgctcggtta cccatcactt gcccggaac tcatcgagta ccaggagagg  
1740  
cagctcttcg agtactttgt ggttgtgtct ttgcacaaga agcaggccgg ggctgcctac  
1800  
gtgccagaac tcaccaaca gtccctctg aagttggaaa ggtctttcaa gttcatgaga  
1860  
gaagctgagg accaactgaa ggccattccc cagttctgtt tccccgatgc caaggattgg  
1920  
gttcctgtcc agcagttcac cagtgaaca ttctcgtttg tcttaactgg agaagatggg  
1980  
agcagaaggt tcggttactg ccgaagactg ctgcctggag gcaaagggaa ggccttcc  
2040  
gaagtttact gcattgtgag ccgcctggga tgcttcagcc tcttttcaag gatcttggat  
2100  
gaggtggaaa aaagacgagg catctctcct gccctgggtc agccactcat gagaagtgtc  
2160  
atggaagccc ctttcccagc cctgggcaaa accatccttg tcaagaactt cctgccaggt  
2220  
tcaggaactg aggtgatcga actgtgccgc ccgctggact cccggctcga gcacgtggac  
2280  
tttgagtctc tcttctctc cctcagcgtc cgccacctgg tctgtgtgtt tgccctcctg  
2340  
cttctggaga ggagggtcat cttcattgca gacaagctca gcatcctgtc caagtgtgctc  
2400  
cacgcgatgg tggcgctgat ctaccccttc gcctggcagc acacctacat cccggtgctg  
2460  
ccacccgcca tggctgacat cgtgtgctcg ccgacgcctt tcctcatcgg gctgctctcc  
2520  
agctcgctgc cactgctcag ggagctgccg ctggaagagg tccttggtgtg tgacctcgtc  
2580  
aacagccggg tcctcagaca gatggacgat gaggactcca tcctgccccg gaagcttcag  
2640

gtggccctgg aacacattct ggaacagagg aacgagctgg cttgtgagca ggacgaaggg  
2700  
cccctagacg gcaggcacgg tccagagtcc agccccttga acgagggtgg gtctgaagcc  
2760  
tttgtccgct tcttcgtgga gattgtggga cactactctt tgttcctgac gtcgggagag  
2820  
cgtgaggaga gaacctgca gcgggaggcc ttccgcaaag ctgtctctc caagagcctc  
2880  
cgccacttcc tggaggtctt catggagact cagatgtttc ggggcttcat ccaggagcgg  
2940  
gagctgcgcc ggcaggatgc caaaggctctg tttgaggtcc gagcccaaga gtatctggaa  
3000  
acactcccca gtggagagca cagcgggtgc aataagttcc tgaagggact aggcaataaa  
3060  
atgaaatttc tccacaagaa ataactctca gcctcaaggg aaaacttctt cctagtgcag  
3120  
ccctatgctt taaaaacagt tcctggtggc ctttctgaaa ggctgggtcc caggttgtca  
3180  
cggtgcggaa ctggaggccg cggtggcttc tggccgaggc tgggctcttc cctggatgag  
3240  
gacctgggag ccgcctggga ggacagcccc agaaaggag cccgagacca ggcgtgtcgc  
3300  
cgacatgcaa atgggttggt ttggtggttg ggtttttttt tttatcttag atattaaaag  
3360  
taagaaaaat gtgtgggttt tctgtttatt atgccaaggc caagaggagc ctgtcctgcc  
3420  
ctacacgttc ccctcgttcg tcccatccgg ccgctcagca atggagctaa gaggagtgg  
3480  
gatgggcaac agaaatgagg tgctcctcgg agcgggactg acgacacatg aggactgtga  
3540  
ggggaggagg cggagccggt gcctcgggtt cagggagtga ggccctcctag tgaaaggctg  
3600  
ggcccttgcc ctagagtgga ggctagggag gaacgggagc tgtagacgga tgtggcttcc  
3660  
cagacacgct gctcttcag aagggacagt gatgccacct ggtggccgag gccatggacg  
3720  
tctctcttc caaatggacc tgactcttct tgactgcctt gttctcttag aagaagccat  
3780  
ggaactgtcc actgcctgag tagtccctgg ctttttagagg cacacacaca aaaagaggtc  
3840  
agtaaactgt tctaggggtc ttcaagtta cgacactgct cacggccac cttccaacac  
3900  
atagccacaa ctttgacccc gttcccatct cattccaggg gccagagca gcattaatgc  
3960  
aatagtggat gtgcactgcc tgtacacggg ggggggaggg gggacctttt gcggctgatg  
4020  
gtaacaagat ggaggggtgag aacgctgggg cggcgtcatg agccgtgtgc agccagagag  
4080  
gcagcttgcg ttttctggac cagaagcagg gaggggtgtg agaaggccaa aaacctcagg  
4140  
gcgacctaa agctgtcctg cagcggggac agtggggaca gcagggacag cggggaggca  
4200  
ggaaaagccc cgaacacagc tgaggcagg tctcagagca agcctcaggg ccactaccag  
4260

gtgacccctg ccctcagctc tcaccagcga ccctcacaga aacacaaaag ggagggggcgc  
 4320  
 cgacctcaac aatggcccag agggggccata ctgcctggca ggggtttctca accttttaggg  
 4380  
 agcgggagca aggggccttc cgaggataaa tagaaatgag gaaaatgagg ggaggtgacc  
 4440  
 tctcatcctt cctcttagct ggagttatgg accccctcgc ccctccaagt tctaccagg  
 4500  
 ctttggtgtg tccattactt tttcagaggt gaagatccac agtttacatc aaatttctcaa  
 4560  
 agatgctccc agaatggtag aaaccaggct gtgcataaaa attaacctgc ctggctgggc  
 4620  
 gcggtgactc acacctgtaa tctcagcact ttgagaggcc aaggcagggtg ggtggatcac  
 4680  
 ttgaggtcag gaggctcagg ccagcctggc caacatggca aaactccgtc tgtactaaaa  
 4740  
 atacaagaaa aacttagcca gccatggtgg tgcgtgcctg ttatcccaac tacctggaag  
 4800  
 gctgaggcag aagaatcgct tgaactgggg aggagaaggt tgcagtgagc cgagatcatg  
 4860  
 ccactgcact ccagcctgga caacagagca agactccttc tcaaaaaaac tctggctggg  
 4920  
 tgtgtgtggg tggggactag ggggatgcct gaatgagaat ccctgaatcc ttgagtgtgg  
 4980  
 gggttcagga atatgtatct aacaagctcc ttggattagt caagtttgtg tgggggctca  
 5040  
 ggaatatatg tatctagcaa gctcctcaga ctagtcaact ttcttaatag tctgcatatt  
 5100  
 tgtatatatg ccagaaaggg acactttttg gaatatactt tctttttttt aacttatttc  
 5160  
 gcattatatt gtttacttaa taactccaag caaataaatg tacatcttta tc  
 5212

&lt;210&gt; 4894

&lt;211&gt; 399

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4894

Met	Asp	Met	Phe	Ser	Leu	Asp	Met	Ile	Ile	Ser	Asp	Pro	Ala	Ala	Glu
1				5				10					15		
Ala	Ser	Arg	Ala	Gly	Lys	Lys	Gln	Leu	Arg	Gly	Val	Gln	Asn	Pro	Cys
			20				25					30			
Pro	Ser	Ala	Arg	Ala	Arg	Pro	Arg	His	Lys	Ser	Leu	Asn	Ile	Lys	Asp
		35				40				45					
Lys	Ile	Ser	Glu	Trp	Glu	Gly	Lys	Lys	Glu	Val	Pro	Thr	Pro	Ala	Pro
	50				55				60						
Ser	Arg	Arg	Ala	Asp	Gly	Gln	Glu	Asp	Tyr	Leu	Pro	Ser	Ser	Thr	Val
65				70			75							80	
Glu	Arg	Arg	Ser	Ser	Asp	Gly	Val	Arg	Thr	Gln	Val	Thr	Glu	Ala	Lys
			85				90						95		
Asn	Gly	Met	Arg	Pro	Gly	Thr	Glu	Ser	Thr	Glu	Lys	Glu	Arg	Asn	Lys
		100					105					110			
Gly	Ala	Val	Asn	Val	Gly	Gly	Gln	Asp	Pro	Glu	Pro	Gly	Gln	Asp	Leu

```

      115              120              125
Ser  Gln  Pro  Glu  Arg  Glu  Val  Asp  Pro  Ser  Trp  Gly  Arg  Gly  Arg  Glu
    130              135              140
Pro  Arg  Leu  Gly  Lys  Leu  Arg  Phe  Gln  Asn  Asp  His  Leu  Ser  Val  Leu
    145              150              155              160
Lys  Gln  Val  Lys  Lys  Leu  Glu  Gln  Ala  Leu  Lys  Asp  Gly  Ser  Ala  Gly
              165              170              175
Leu  Asp  Pro  Gln  Leu  Pro  Gly  Thr  Cys  Tyr  Ser  Pro  His  Cys  Pro  Pro
    180              185              190
Asp  Lys  Ala  Glu  Ala  Gly  Ser  Thr  Leu  Pro  Glu  Asn  Leu  Gly  Gly  Gly
    195              200              205
Ser  Gly  Ser  Glu  Val  Ser  Gln  Arg  Val  His  Pro  Ser  Asp  Leu  Glu  Gly
    210              215              220
Arg  Glu  Pro  Thr  Pro  Glu  Leu  Val  Glu  Asp  Arg  Lys  Gly  Ser  Cys  Arg
    225              230              235              240
Arg  Pro  Trp  Asp  Arg  Ser  Leu  Glu  Asn  Val  Tyr  Arg  Gly  Ser  Glu  Gly
              245              250              255
Ser  Pro  Thr  Lys  Pro  Phe  Ile  Asn  Pro  Leu  Pro  Lys  Pro  Arg  Arg  Thr
    260              265              270
Phe  Lys  His  Ala  Gly  Glu  Gly  Asp  Lys  Asp  Gly  Lys  Pro  Gly  Ile  Gly
    275              280              285
Phe  Arg  Lys  Glu  Lys  Arg  Asn  Leu  Pro  Pro  Leu  Pro  Ser  Leu  Pro  Pro
    290              295              300
Pro  Pro  Leu  Pro  Ser  Ser  Pro  Pro  Pro  Ser  Ser  Val  Asn  Arg  Arg  Leu
    305              310              315              320
Trp  Thr  Gly  Arg  Gln  Lys  Ser  Ser  Ala  Asp  His  Arg  Lys  Ser  Tyr  Glu
              325              330              335
Phe  Glu  Asp  Leu  Leu  Gln  Ser  Ser  Ser  Glu  Ser  Ser  Arg  Val  Asp  Trp
    340              345              350
Tyr  Ala  Gln  Thr  Lys  Leu  Gly  Leu  Thr  Arg  Thr  Leu  Ser  Glu  Glu  Asn
    355              360              365
Val  Tyr  Glu  Asp  Ile  Leu  Asp  Pro  Pro  Met  Lys  Glu  Asn  Pro  Tyr  Glu
    370              375              380
Asp  Ile  Glu  Leu  His  Gly  Arg  Cys  Leu  Gly  Lys  Lys  Xaa  Val  Ser
    385              390              395

```

&lt;210&gt; 4895

&lt;211&gt; 1087

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4895

```

gcggaatgtc aactattcaa catggaggcg gaggtcgata agctggaact gatgttccag
60
aaagctgagt ctgatctgga ttacattcaa tacaggctgg aatatgaaat caagactaat
120
catcctgatt cagcaagtga gaaaaatcca gttacactct taaaggaatt gtcagtgata
180
aagtctcgat atcaaacttt gtatgccgcg tttaaaccag ttgctgttga gcagaaagag
240
agtaagagcc gcatttgtgc tactgtgaaa aagactatga atatgataca aaaactacag
300
aagcaaacag acctggaggt aatgctttca gttgacagct gtcaccactg actaaagaag
360

```

agaaaactgc ggcagagcaa ttcaaatttc acatgccaga tttatgaaga aatggacttg  
 420  
 gaaaggaaat tctaacagag aagagcttaa ttccggagaa atttaggaag atgtcttggt  
 480  
 aacccttgat gtctagagat tgggggctgg tgaagggggt ttggcttcaa tgactggata  
 540  
 atgatatctt tcatgagaga gattataaga agaagggcag ataatatatg aataaagttc  
 600  
 agccaaaagg atcaaagag aataaaacga tttaaataata tgtacacacg catgcacaca  
 660  
 cacacttagt cttgtaattt caggccagaa attctcaaca ctattttgca tctgttttct  
 720  
 ttttctaagt catgataata tagatgttct ggtctatcat aaaagaatgt ttatgtacat  
 780  
 ttcagtcatt cggatgtgg ctttgtaaatt taaagtatag gcaaaacatt tgtgttatac  
 840  
 atgatatata atttcatttt gtaaagtgtg attgcacatg tggtcacatt attgttgaga  
 900  
 ctgcttttat gtgacctgta gtctcccaca gaacctaaag taataagctg gcttttctgt  
 960  
 gatagccacg tttgctgatt tctttcccta tttcccttgc ctgctaattg tgaacagcat  
 1020  
 gaacttgctt tctgatgctg ttttagactg tccctgttgt atctcaataa tatctttggt  
 1080  
 ttccttc  
 1087

<210> 4896  
 <211> 109  
 <212> PRT  
 <213> Homo sapiens

<400> 4896  
 Met Glu Ala Glu Val Asp Lys Leu Glu Leu Met Phe Gln Lys Ala Glu  
 1 5 10 15  
 Ser Asp Leu Asp Tyr Ile Gln Tyr Arg Leu Glu Tyr Glu Ile Lys Thr  
 20 25 30  
 Asn His Pro Asp Ser Ala Ser Glu Lys Asn Pro Val Thr Leu Leu Lys  
 35 40 45  
 Glu Leu Ser Val Ile Lys Ser Arg Tyr Gln Thr Leu Tyr Ala Arg Phe  
 50 55 60  
 Lys Pro Val Ala Val Glu Gln Lys Glu Ser Lys Ser Arg Ile Cys Ala  
 65 70 75 80  
 Thr Val Lys Lys Thr Met Asn Met Ile Gln Lys Leu Gln Lys Gln Thr  
 85 90 95  
 Asp Leu Glu Val Met Leu Ser Val Asp Ser Cys His His  
 100 105

<210> 4897  
 <211> 1733  
 <212> DNA  
 <213> Homo sapiens

<400> 4897

nactttgttg cccgggctgg agtgcagtgg cgcgatctca gctcactgca gcctctgcct  
60  
ctcaggttca agcaattctc ctgcttcagc ctcccaagta gctgggatta caggcgccca  
120  
ccacgatgcc cagctaattt ttgtattttc agtaaagaca gggtttcacc atgttggtta  
180  
ggctgggtctc aaactcctga tnccacccgc ctcggcctcc caaagtgtgt ggattacagg  
240  
cgtgaaccac cgcgcccggg tgacctttgg aacttctgac cgactggctt caagttgagg  
300  
ttcccacaat tccctctgta ggttcaattt gctggagtgg ctcacaaac taagggaat  
360  
acatttactg gtttattata aaggatatta taaaagatac agataaagag atgcataggg  
420  
tgaggtatga aggaagggca tggagcttcc tgtgccctcc ctgggcgcac cacccttcta  
480  
gaacctctgt atgttcagtt atctggaagc tctctgaatc cagtccctt ggtttttatg  
540  
gaagcttcat gacagcagca ttccttctag caggatatgg ggtgggaccg tctctggaat  
600  
gagttttatg acccaccatc agaaaggtag ggaagattag agtcctgtct tgggcaggta  
660  
aaaggaaggg caggagggtta gagtgattgt ctctgagggc ctgacacacc caatgttgta  
720  
acaaaagagt gtaacaaggg ctgtgggagt tatgagccag gaactgtgga cgaaaatgaa  
780  
tgcgtgtgtt tgtatatatg tgtgtctgtg tatttatata tatatgtgtg tatatacaaa  
840  
tacacacaca cacacgccac caciaagcca aaaaagaaga agtgatcatt tttctaagtg  
900  
ctacgatgga tgccctggga gagcgagcca gagggggcat gtttatgggc tgagctgcac  
960  
ccccccaccc ccaatttatg tgttgaaccc ctaatccccg gtagctcgca atggcccgt  
1020  
tgtgaatgga tatggagata agagaggtga ttacattaag atgaggccgt cagggggccc  
1080  
ctcatccaat ctaccagtgt tccttataag agaaaatctg gacacacaaa gagacaccag  
1140  
ggacacctgc actcagaaga ccaaccaggg ccatctccaa gccaaggaga gaggccttag  
1200  
aagaaaccaa ccctgcgaac accttgggtc tggacttcca gcctccagga ctgtgagaaa  
1260  
ataaatgtct tttgtttaag ccactcagtc tctggatttt tcttatgaga gccagagcag  
1320  
accaacacag agggtcaggg gaagcgtcta tggggaggtg actcatgtac tgagtcttga  
1380  
gggagaggtt tccaggcaga tggagcagca tgctccaagg ccttgtgaag gaaaagagct  
1440  
cagtgtgtc cgggaaccag gagaagatga gggaggccag ggcctaagga gggcagggt  
1500  
ggagaggaag tgggaagaca tgcaggggac atgtgcacag ggctgggaag gagcctgagt  
1560  
tttcttctca gtgccatgtg aagccactga agagttttta tgagaaaagg gacataagtc  
1620

agctcctatt ttaggaggtg gcctctggct gtgtctaata gagttgacaa gaataaaagt  
 1680  
 agaaggagaa gaccaaggag gaggacgcca ggtgagagca ggtgggtggtc agg  
 1733

<210> 4898  
 <211> 92  
 <212> PRT  
 <213> Homo sapiens

<400> 4898  
 Xaa Phe Val Ala Arg Ala Gly Val Gln Trp Arg Asp Leu Ser Ser Leu  
 1 5 10 15  
 Gln Pro Leu Pro Leu Arg Phe Lys Gln Phe Ser Cys Phe Ser Leu Pro  
 20 25 30  
 Ser Ser Trp Asp Tyr Arg Arg Pro Pro Arg Cys Pro Ala Asn Phe Cys  
 35 40 45  
 Ile Phe Ser Lys Asp Arg Val Ser Pro Cys Trp Leu Gly Trp Ser Gln  
 50 55 60  
 Thr Pro Asp Xaa Thr Arg Leu Gly Leu Pro Lys Cys Trp Asp Tyr Arg  
 65 70 75 80  
 Arg Glu Pro Pro Arg Pro Gly Asp Leu Trp Asn Phe  
 85 90

<210> 4899  
 <211> 444  
 <212> DNA  
 <213> Homo sapiens

<400> 4899  
 ccggcccatc aaagactggc taaagcatca gccataaatg gggacaaaacg tggggccagc  
 60  
 agcttctgtt cgggggtctcg gcatcagcaa accgcagcag ctttggagaa ggggtccgtga  
 120  
 gtggcggtc tggaggcagc aacgggggtcc tttgggggtg gtgggagttc tgctggattc  
 180  
 aggtggaggt gaacatctgc cgttcccaca gccctgcgtg ccccccaaa tgctgctggc  
 240  
 ccacagaatc agccagtgcc acggccccac cacagccagg cttggccctg tcagcggcca  
 300  
 gcatcccgag ggccagggtc cgagtgtcct caccaaggag gctcttggcg tcgctgtgcc  
 360  
 ggctcccatg ggccttctgc tgggtcgagg gtaggtctcc tcctccccct ttgccttggc  
 420  
 attaaactga tggtcagggt ggga  
 444

<210> 4900  
 <211> 118  
 <212> PRT  
 <213> Homo sapiens

<400> 4900  
 Met Gly Thr Asn Val Gly Pro Ala Ala Ser Val Arg Gly Leu Gly Ile

```

<400> 4901
ncgggagtcg cggcgctgcg ggtaggagcc gggttgcggg agaccccagg ttcggttggg
60
attcccagcc agaacggagc ttaagccggg caggcgatgc gaatgacgga gtagcgagct
120
gcacggcgcc gtgctgcgct gttgaggacg ctgtcccgcg cgctcccagg ccgccccgag
180
gcttggggtc ttcgaaggat aatcggcgcc cggggccgaa cagcgggggc acacggggcg
240
ctgccgaagt gcaaggccac ggccagagct cgagcccgcg gcgctgtctg gagtcgtagg
300
ttggcgccgt ttggggtcgg ggtctgaggc ttgggcgctg cctgggcccga gcggagatcg
360
gggtttgcct cccgtccccg ctcaggaccc tgacgtggct gaagcggccc cgggagcatg
420
agcgggcagc gcgtggacgt caaggtggtg atgctgggca aggagtacgt gggcaagact
480
agcctggtgg agcgctacgt gcacgaccgc tttctggtgg ggccttatca gaacaccatc
540
ggggccgcct tcgtggccaa ggtgatgtcg gtcggagacc ggactgtgac attaggtatt
500
tgggacacag caggctctga gcgctatgag gccatgagta gaatctacta tcgggggtgcc
560
aaggctgcca tcgtctgcta tgacctcaca gacagcagca gctttgagcg agcaaagtcc
600
cgggtgaagg aactgcgcag cctagaggag ggctgccaaa tctacttatg tggcaccaag
660
agtgcacctg tggaagaaga ccggaggcgt cgacgtgtgg acttccacga cgtccaggac
720
catgcagaca gtagctgtc ctcagccctt tggggggtgg ggggtgtgtgg ctgtctgggt
780
tgatcaaaga aaatagggac tgccttggct gccagggcaa ggtgctctag gaggtcttcc
840

```



tggcctcctt gaactgtggg gtccaggaga ctccctgaac tgctagccct cccctttgtc  
 1020  
 tgtttatcta attctcaggt atgaggcttt agtcacttct ctttacagat atcaaagctc  
 1080  
 agctctttga aacatccagc aagacaggcc agagtgtggg tgagtgtgtg gctggagcct  
 1140  
 cacagcagga acatgcaggg gcaccagagg aagctgaata gggcacagag ggctgggtca  
 1200  
 ctgggagatc ccagggctac tggcattggg cctctgctga tcatcatttt tcttgccaga  
 1260  
 cgagctcttc cagaaagtgg cagaggatta cgtcagtgtg gctgccttcc aggtgatgac  
 1320  
 agaggacaag ggcgtggatc tgggccagaa gccaaacccc tacttctaca gctgttgtca  
 1380  
 tcactgagtc agcactcacc tggcctgggg gaattaaagg aattccccgt aagcgtggac  
 1440  
 ccagctcctt tctgggcttg ggtagtcaaa tgtctgagct acgccaggtc ctcatgtcag  
 1500  
 cagagtggcg cctgcctgtc  
 1520

&lt;210&gt; 4902

&lt;211&gt; 184

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4902

Met	Ser	Gly	Gln	Arg	Val	Asp	Val	Lys	Val	Val	Met	Leu	Gly	Lys	Glu
1			5					10					15		
Tyr	Val	Gly	Lys	Thr	Ser	Leu	Val	Glu	Arg	Tyr	Val	His	Asp	Arg	Phe
			20					25				30			
Leu	Val	Gly	Pro	Tyr	Gln	Asn	Thr	Ile	Gly	Ala	Ala	Phe	Val	Ala	Lys
		35				40				45					
Val	Met	Ser	Val	Gly	Asp	Arg	Thr	Val	Thr	Leu	Gly	Ile	Trp	Asp	Thr
	50				55					60					
Ala	Gly	Ser	Glu	Arg	Tyr	Glu	Ala	Met	Ser	Arg	Ile	Tyr	Tyr	Arg	Gly
65				70				75						80	
Ala	Lys	Ala	Ala	Ile	Val	Cys	Tyr	Asp	Leu	Thr	Asp	Ser	Ser	Ser	Phe
			85					90					95		
Glu	Arg	Ala	Lys	Phe	Trp	Val	Lys	Glu	Leu	Arg	Ser	Leu	Glu	Glu	Gly
		100						105				110			
Cys	Gln	Ile	Tyr	Leu	Cys	Gly	Thr	Lys	Ser	Asp	Leu	Leu	Glu	Glu	Asp
	115					120					125				
Arg	Arg	Arg	Arg	Val	Asp	Phe	His	Asp	Val	Gln	Asp	Tyr	Ala	Asp	
	130				135					140					
Ser	Ser	Cys	Ser	Ser	Ala	Leu	Trp	Gly	Val	Gly	Val	Cys	Gly	Cys	Leu
145					150				155						160
Gly	Gly	Ser	Lys	Lys	Ile	Gly	Thr	Ala	Leu	Ala	Ala	Arg	Ala	Arg	Cys
			165						170					175	
Ser	Arg	Arg	Ser	Ser	Trp	Pro	Pro								
			180												

&lt;210&gt; 4903

&lt;211&gt; 1064

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4903

agccagtgtc ccaggcggtc tcacgccgca acaattcctg agtagggcct tgcttgagtt  
 60  
 cttcggaag tctcatccac cccacatcg cctctttagg aagtcactta atgttgggct  
 120  
 tcattattcc cacatccctt tccttactac ttgcctgcac ttcttgagaa aaagactgca  
 180  
 gaaaggagag gtggggcttt cagtagaaac aagcaaaccg cagtcctgt ggggggactc  
 240  
 tccaggaaga aggttccgca agaaccgtgg gcgacagtta tggagaagcg tctgcaggag  
 300  
 gctcagctgt acaaggagga agggaaaccag cgctaccggg aagggaaagta ccgagatgct  
 360  
 gtgagtaggt accatcgagc tctgcttcag ctgcggggtc tggatccgna gtctgccctc  
 420  
 tccgttacct aatctcggac ctcaggggccc nggcctcac gcctgnaaca agaaaacata  
 480  
 ttgcatacca cccagacaga ctgctataac aatctagctg cttgtctcct tcagatggag  
 540  
 cccgtgaact acgaacgagt gagagaatat agtcagaaag tcctggaacg acagcctgat  
 600  
 aatgccaaagg ccttgtatcg ggccggagtg gcctttttcc atctgcagga ctatgaccag  
 660  
 gcccgccact acctcctggc tgccgtgaat aggcagccta aagatgccaa cgtccggcgg  
 720  
 tacctccagc tgacacagtc agaactcagc agctaccata gaaaagagaa gcagctctac  
 780  
 ctgggcatgt ttggttaaca aagaagaaag atgctcctcc agttgaactt aggtggacca  
 840  
 ttaaacaatgc atgaaggaga aatctgagcc tcagcaagag aaattaaccc tatacctctg  
 900  
 acccaggtgg atttttgttt ctagttctgc acaaacttca ctacttagac agtctgagtc  
 960  
 tttttctgtc tatccatctg tttatttcta tacctttcaa tacatgttat tgttgagat  
 1020  
 atttggttg agaaatataa tcagaaaaca taaaaaaaaa aaaa  
 1064

&lt;210&gt; 4904

&lt;211&gt; 106

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4904

Cys Trp Ala Ser Leu Phe Pro His Pro Phe Pro Tyr Tyr Leu Pro Ala  
 1 5 10 15  
 Leu Leu Glu Lys Lys Thr Ala Glu Arg Arg Gly Gly Ala Phe Ser Arg  
 20 25 30  
 Asn Lys Gln Thr Ala Val Pro Val Gly Gly Leu Ser Arg Lys Lys Val  
 35 40 45  
 Pro Gln Glu Pro Trp Ala Thr Val Met Glu Lys Arg Leu Gln Glu Ala

```

      50              55              60
Gln Leu Tyr Lys Glu Glu Gly Asn Gln Arg Tyr Arg Glu Gly Lys Tyr
65              70              75              80
Arg Asp Ala Val Ser Arg Tyr His Arg Ala Leu Leu Gln Leu Arg Gly
      85              90              95
Leu Asp Pro Xaa Ser Ala Leu Ser Val Thr
      100              105

```

<210> 4905  
 <211> 615  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4905
cccggcagcc acgtggcgga tgggtgttccg cgacaggctc agatgcagca ggcctgtcat
60
gttggccagg tcgcgggcgc gcacggaggc gatgaagttg tctgccagcc gcagctcggc
120
tgcccggcgg tccagcgagg gtggcacgaa caggaggcct gccctggggc acagcacgct
180
taggggcagc gactgtgtct ggcagcgga gcgggggga catgggctgg gtgtgccgag
240
acactggagg acctcgacct ctctacaac aacctcgagc agctgccctg ggaggccctg
300
ggcgcctgg gcaacgtcaa cacgttgggc ctcgaccaca acctgctggc ttctgtgccc
360
gccggcgctt tttcccgctt gcacaagctg gccgggctgg acatgacctc caaccgctg
420
accacaatcc caccgaccc actcttctcc cgctgcccc tgctcgccag gccccggggc
480
tcgcccgcct ctgccctggt gctggccttt ggcggaacc ccctgcactg caactgcgag
540
ctggtgtggc tgcgtgcct ggcggggag gacgacctg aggcctgcgc gtccccacct
600
gctctgggag gccgc
615

```

<210> 4906  
 <211> 144  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4906
Gly Gln Arg Leu Cys Leu Ala Ala Ala Ala Ala Gly Thr Trp Ala Gly
1              5              10              15
Cys Ala Glu Thr Leu Glu Asp Leu Asp Leu Ser Tyr Asn Asn Leu Glu
      20              25              30
Gln Leu Pro Trp Glu Ala Leu Gly Arg Leu Gly Asn Val Asn Thr Leu
      35              40              45
Gly Leu Asp His Asn Leu Leu Ala Ser Val Pro Ala Gly Ala Phe Ser
      50              55              60
Arg Leu His Lys Leu Ala Arg Leu Asp Met Thr Ser Asn Arg Leu Thr
65              70              75              80
Thr Ile Pro Pro Asp Pro Leu Phe Ser Arg Leu Pro Leu Leu Ala Arg

```

				85					90					95					
Pro	Arg	Gly	Ser	Pro	Ala	Ser	Ala	Leu	Val	Leu	Ala	Phe	Gly	Gly	Asn				
			100					105					110						
Pro	Leu	His	Cys	Asn	Cys	Glu	Leu	Val	Trp	Leu	Arg	Arg	Leu	Ala	Arg				
		115					120					125							
Glu	Asp	Asp	Leu	Glu	Ala	Cys	Ala	Ser	Pro	Pro	Ala	Leu	Gly	Gly	Arg				
	130					135						140							

&lt;210&gt; 4907

&lt;211&gt; 1748

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4907

```

nntttttgct ggaaaatact ttttaattat gaacatgtta aaaataaaaa acagcagaag
60
ccctgatatt acctcttttt cctcattttt tatactacct tttaaaataa agcaggaaat
120
gtggccagca gctgggtccc tctcttctgc cccaacagct gtatccacag gttgtgaggc
180
gggaacgact gttctgtaac ccctacaacg gagcctggca ggaaggaaat cacctaaaaa
240
agaaactgtc agagagattht aatagtcaca tggtatcatt aggagttggt tactgtgtca
300
cattcatgct tttagctaaa cactttaaga ttcaatatta ctttttttct ctctctgaa
360
atgtgtccgg tgaagatgtc ccactaaggt aagtttgaca tgggtgtaagg gagttgaaag
420
gggtaaaacgc ggataaagag cagattactt gaccctacat ttaagagaa gacgacgcct
480
tccggggcga cgcgagcag aactccaccg acaccttatt cttgtccaca tggagacaga
540
ctcctcccgc cgagtcgtcc tcttcagca ggtcctgctt ctgctttccc accggcagag
600
cgtagtcgtg gtcaccggcg ggcgagtc tgaagagcga ggtggtcagc cgcagtccca
660
cgccgctcag ccggctcagc aagcgagcca gtccagtctc gttggctaag actgcccgtg
720
ggtagcgact ctctcctgc agtgctgtg cgcgtttgce cagctcccga ttctcgcccc
780
gcagctcctg gttctcggct gccagacccc ggactcgact ctccagcccc atcacgtact
840
cctttcttctt cagtcgatta aggcgggcag cggccgcgcg cgccttcggy ggactctttg
900
tcgcccctn gggtgtgtg gttaccgctg ccgccaccgc cgcctcctcc tggggacttt
960
ctccgcctct tttcggcgct gccactgtca ctgctgctgc ctgctgctgc agcctccgat
1020
accgtttaac agcctttgca gnnccagggtc gagaagcgct gcatttcagc agccgcggcc
1080
tcacgtcat cgtccccctct ccacaggccg ccgctatccg agcctccgcc agacgaggag
1140
agaggcccn nggcgagcta agcccgggggt ccagggtgcca gtccgggtgc ctgggggtcca
1200

```

ggagatccgc cagttccagc ccagacagaa agtccatata ctccgtctct tcccccgga  
 1260  
 ggctggcgat cgctctctcc tccatctcct cgggggaggg cgcgcgcacg gccacgccgc  
 1320  
 cgcggctccc cctccnccgc ttccaactct ccttcgtcgc caaactgctg cttgcggccg  
 1380  
 ggagatccgg ccgccgccgt ctctcctcc cccgctgcag cccgggtcag gtcagagggc  
 1440  
 agcgaacaag ttgcagccgg ctccgggctc tctactgcggg ttggggagtt gctgcccag  
 1500  
 gctgccagca gcttggtcag gctatgcctc atgagggcca cgggcggccg cggtagcccc  
 1560  
 ggccgctaag agtggctcac gggccccaag gatcccaggc cccagggcgg gtagcccccg  
 1620  
 gcactggccg aaacgaaatg cagggaaagg tccgagtcgc ctccgcctc acttggttag  
 1680  
 tcgcacccaa ggcgcgggga gggacgggag aacgaagcgg tgaggccctg cgatgactcg  
 1740  
 accgcgcc  
 1748

&lt;210&gt; 4908

&lt;211&gt; 55

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4908

Glu	Lys	Thr	Thr	Pro	Ser	Gly	Arg	Thr	Pro	Ser	Arg	Thr	Pro	Pro	Thr
1				5					10					15	
Pro	Tyr	Pro	Cys	Pro	His	Gly	Asp	Arg	Leu	Leu	Pro	Pro	Ser	Arg	Pro
			20					25					30		
Leu	Pro	Ala	Gly	Pro	Ala	Ser	Ala	Phe	Pro	Pro	Ala	Glu	Arg	Ser	Arg
			35				40					45			
Gly	His	Arg	Arg	Ala	Ser	Leu									
	50					55									

&lt;210&gt; 4909

&lt;211&gt; 1960

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4909

nacgcgtcct gcggtcagga cagtgttcta agtgtgaagg gtccctgggc agaggctggg  
 60  
 aggggtggcca gagaccaggg agggccctc catctggtgg gtttggcagg tgtgtccccg  
 120  
 cgcggctccc cgaaccggaa gtggaggtga gctgtcgcgg gcggcgcccc gccttgcctc  
 180  
 acgcccagca gtccccaccg tcgctgccgc cgccaccgcc ctcggccgct gccgaggcct  
 240  
 cctgcagcca tcatgtccgc cagcgcgcgc tacgtgctgg acctgaaggg caaggtgctc  
 300  
 atctgccgga actaccgtgg cgacgtggac atgtcagagg tggagcactt catgcccata  
 360

ctgatggaga aggaggagga ggggatgctg tcgcccaccc tggcccacgg gggggtcctg  
420  
ttcatgtgga tcaaacacaa caacctgtat ctgggttgcca catccaagaa gaacgcgtgc  
480  
gtgtcgctgg tcttttcttt cctctataag gtgggtgcagg tgttttccga gtacttcaag  
540  
gagctggagg aggagagcat ccgggacaac tttgttatca tctacgagct gctggacgag  
600  
ctcatggact tcggcttccc ccagaccacc gacagcaaga tcctgcagga gtacatcact  
660  
cagcagagca acaagctgga gacgggcaag tcacgggtgc caccactgt caccaacgct  
720  
gtgtcctggc gctccgaggg tatcaagtat aagaagaacg aggtcttcat tgatgtcata  
780  
gagtctgtca acctgctggc caatgccaac ggcagcgtcc ttctgagcga aatcgtcggc  
840  
accatcaaga tgcgagtctt cctctcgggc atgcccagagc tgcgcctggg cctcaacgac  
900  
aaggctctct ttgacaacac gggccgcggc aaaagcaaat ccgtggagct ggaggatgtg  
960  
aagttccacc agtgtgtgcg gctatcacgc ttcgagaatg accgcaccat ctccttcact  
1020  
ccaccgacg gcgagttcga gctcatgtcc taccgtctca acaccacgt caagcctttg  
1080  
atatggatcg agtctgtcat tgagaagttc tcccacagcc gcatcgagta catggtcaag  
1140  
gccaaggggc agtttaagaa acagtcagtg gccaacggcg tggagatata tgtgcctgta  
1200  
cccagcgatg ccgactcccc cagattcaag accagtgtgg gcagcgccaa gtatgtgccg  
1260  
gagagaaacg tcgtgatttg gagtattaag tctttcccg ggggcaagga gtacttgatg  
1320  
cgagcccact ttggcctccc cagtgtggaa aaggaagagg tggagggccg gccccccatc  
1380  
ggggtcaagt ttgagatccc ctacttcacc gtctctggga tccaggtccg atacatgaag  
1440  
atcattgaga aaagtggta ccaggccctg ccctgggttc gctacatcac ccagagtggc  
1500  
gattaccaac ttcgtaccag ctagaaggga gaagagatgg gggcttgaac acggggcttc  
1560  
cttacagccc cggatgcaga ttttagaggg agggcaggtg cgggctgtgt gtgtctgtgt  
1620  
gagggcaggt cctggacttg gcagtttctt gctcccagca cccgcccctt cctcacctct  
1680  
tccttattcc ataggctggg agagaaactc tctctgcttc cctcgccctt ggagctttcc  
1740  
ccatccccct gatatttatat gaagaaatag aagaggggct tgaagtcccc ctgcgagtg  
1800  
ccttcttgca attacctgcc ttagcgggtg ttgcgggtcc ctccttcaca gccgctgagc  
1860  
ccagaggtcc cgctggcccc tcctctgaat ttaggatgt cattaaaaag atgaatctaa  
1920  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
1960

<210> 4910  
 <211> 423  
 <212> PRT  
 <213> Homo sapiens

<400> 4910

Met	Ser	Ala	Ser	Ala	Val	Tyr	Val	Leu	Asp	Leu	Lys	Gly	Lys	Val	Leu
1				5					10					15	
Ile	Cys	Arg	Asn	Tyr	Arg	Gly	Asp	Val	Asp	Met	Ser	Glu	Val	Glu	His
			20					25					30		
Phe	Met	Pro	Ile	Leu	Met	Glu	Lys	Glu	Glu	Glu	Gly	Met	Leu	Ser	Pro
		35					40					45			
Ile	Leu	Ala	His	Gly	Gly	Val	Arg	Phe	Met	Trp	Ile	Lys	His	Asn	Asn
	50					55					60				
Leu	Tyr	Leu	Val	Ala	Thr	Ser	Lys	Lys	Asn	Ala	Cys	Val	Ser	Leu	Val
65					70					75					80
Phe	Ser	Phe	Leu	Tyr	Lys	Val	Val	Gln	Val	Phe	Ser	Glu	Tyr	Phe	Lys
				85					90					95	
Glu	Leu	Glu	Glu	Glu	Ser	Ile	Arg	Asp	Asn	Phe	Val	Ile	Ile	Tyr	Glu
			100					105					110		
Leu	Leu	Asp	Glu	Leu	Met	Asp	Phe	Gly	Phe	Pro	Gln	Thr	Thr	Asp	Ser
		115					120					125			
Lys	Ile	Leu	Gln	Glu	Tyr	Ile	Thr	Gln	Gln	Ser	Asn	Lys	Leu	Glu	Thr
	130					135					140				
Gly	Lys	Ser	Arg	Val	Pro	Pro	Thr	Val	Thr	Asn	Ala	Val	Ser	Trp	Arg
145					150					155					160
Ser	Glu	Gly	Ile	Lys	Tyr	Lys	Lys	Asn	Glu	Val	Phe	Ile	Asp	Val	Ile
				165					170					175	
Glu	Ser	Val	Asn	Leu	Leu	Val	Asn	Ala	Asn	Gly	Ser	Val	Leu	Leu	Ser
			180					185					190		
Glu	Ile	Val	Gly	Thr	Ile	Lys	Met	Arg	Val	Phe	Leu	Ser	Gly	Met	Pro
		195					200					205			
Glu	Leu	Arg	Leu	Gly	Leu	Asn	Asp	Lys	Val	Leu	Phe	Asp	Asn	Thr	Gly
	210					215					220				
Arg	Gly	Lys	Ser	Lys	Ser	Val	Glu	Leu	Glu	Asp	Val	Lys	Phe	His	Gln
225					230					235					240
Cys	Val	Arg	Leu	Ser	Arg	Phe	Glu	Asn	Asp	Arg	Thr	Ile	Ser	Phe	Ile
				245					250					255	
Pro	Pro	Asp	Gly	Glu	Phe	Glu	Leu	Met	Ser	Tyr	Arg	Leu	Asn	Thr	His
			260					265					270		
Val	Lys	Pro	Leu	Ile	Trp	Ile	Glu	Ser	Val	Ile	Glu	Lys	Phe	Ser	His
		275					280					285			
Ser	Arg	Ile	Glu	Tyr	Met	Val	Lys	Ala	Lys	Gly	Gln	Phe	Lys	Lys	Gln
	290					295					300				
Ser	Val	Ala	Asn	Gly	Val	Glu	Ile	Ser	Val	Pro	Val	Pro	Ser	Asp	Ala
305					310					315					320
Asp	Ser	Pro	Arg	Phe	Lys	Thr	Ser	Val	Gly	Ser	Ala	Lys	Tyr	Val	Pro
				325					330					335	
Glu	Arg	Asn	Val	Val	Ile	Trp	Ser	Ile	Lys	Ser	Phe	Pro	Gly	Gly	Lys
			340					345					350		
Glu	Tyr	Leu	Met	Arg	Ala	His	Phe	Gly	Leu	Pro	Ser	Val	Glu	Lys	Glu
		355					360					365			
Glu	Val	Glu	Gly	Arg	Pro	Pro	Ile	Gly	Val	Lys	Phe	Glu	Ile	Pro	Tyr

370		375		380
Phe Thr Val Ser Gly	Ile Gln Val Arg Tyr Met	Lys Ile Ile Glu Lys		
385	390	395	400	
Ser Gly Tyr Gln Ala	Leu Pro Trp Val Arg Tyr	Ile Thr Gln Ser Gly		
	405	410	415	
Asp Tyr Gln Leu Arg	Thr Ser			
420				

&lt;210&gt; 4911

&lt;211&gt; 1862

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4911

tataagaaat aattgtgaca ttatcatgcct ggaaatgtat cacgggggct ttcgttcata  
60  
ttgacactat atattactga atggatcagt taatatataa ccagttttaa ggacctgaaa  
120  
atgtagtgc agccaagaag gatattttga agtttgaaat gatccctata taaatagaac  
180  
ggatcagcat aactttggga taaaattagc cgacagtttg tggactctcc agcatgcgcc  
240  
tgtttgctcg gtgctgttct ctcgataaat cacaacaaag cttccagagg gagaggaagg  
300  
atggacggca cactgcccc tgcactaaa tctggagctg ccaagttagt taagagaaat  
360  
ttccttgagg cgctaaagtc caatgacttc ggaaaattga aggctatttt gatccaaagg  
420  
caaatagatg tggacactgt ttttgaagtc gaagatgaga atatggtttt ggcattctat  
480  
aaacaagggt actggttgcc tagctataaa ttgaagtctt cctggggccac aggcctccat  
540  
ctctctgtct tgtttggcca tgtggaatgt cttctggtgc tactggacca caatgctaca  
600  
atcaactgta gacccaatgg gaaaaccct cttcacgtgg cttgtgaaat ggccaatgtg  
660  
gattgtgtta agatcctctg tgatcgtggg gcaaagctca attgctactc cttaagtgga  
720  
cacacagctt tgcacttttg tacaactcca agttccattc tctgtgccaa gcaattgggt  
780  
tggagagtga cacaagtcaa ccacatgtta ggaaattccc tggatcaatga agtgaacat  
840  
gtgacacaag tcaaccacat gttaggaaat tccttgggtca atgaagtgga acatggggcg  
900  
aatgtgaaca tgaagaccaa caaccaagat gaggagacgc cttgcacac ggctgcccac  
960  
ttcggccttt cggagctggt ggccttctac gtggaacacg gggccatagt ggacagcgtg  
1020  
aatgcccaca tggagacccc cctggccatc gccgcctact gggccctccg cttaaggag  
1080  
caggagtaca gcacggagca ccacctggtc tgccgcatgc tgcttgacta caaagccgaa  
1140  
gtcaatgccc gagatgacga ctttaaattct cccctccaca aggcagcctg gaactgtgac  
1200



cacgtgctca tgcacatgat gctggaagct ggcgccgaag ccaatctcat ggatatcaac  
 1260  
 ggctgtgctg ccatccagta cgtgctgaag gtcacctccg tgcgcctgc tgcccagcct  
 1320  
 gagatctgct accagctcct gttgaacat ggggctgccc gaatataccc tccacagttc  
 1380  
 cataaggtga tacaggcctg ccattcttgt cctaaagcaa ttgaagttgt agtcaatgcc  
 1440  
 tatgaacaca tcagatggaa cacaaagtgg agaagagcta tccccgatga tgacttggag  
 1500  
 gtaaataatc gattcccttc taatagtttt cactatcaag tacttccaga ctgctctaga  
 1560  
 agtacagaaa attgtaacaa aaaagttggt ttgagaatg cctttaaagc gtactcaaat  
 1620  
 gcaatgagac aaagggttat aaaatgcagg ttgagagtt aatatttcca tcaaatatgt  
 1680  
 ggcattaagg agtgtcttgg ggaattcctc catttaaggg caagttgaat taagtatata  
 1740  
 aaggtggcag ttttcttttc ttctcattaa tttagatgag ttaaatgata acatttggaa  
 1800  
 ttgcttatat agcattttta ccagaatatt aaagcgtttt gtgtagatta tttcatttac  
 1860  
 tt  
 1862

&lt;210&gt; 4912

&lt;211&gt; 453

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4912

Met	Asp	Gly	Thr	Thr	Ala	Pro	Val	Thr	Lys	Ser	Gly	Ala	Ala	Lys	Leu
1				5					10					15	
Val	Lys	Arg	Asn	Phe	Leu	Glu	Ala	Leu	Lys	Ser	Asn	Asp	Phe	Gly	Lys
			20					25					30		
Leu	Lys	Ala	Ile	Leu	Ile	Gln	Arg	Gln	Ile	Asp	Val	Asp	Thr	Val	Phe
		35				40					45				
Glu	Val	Glu	Asp	Glu	Asn	Met	Val	Leu	Ala	Ser	Tyr	Lys	Gln	Gly	Tyr
	50					55					60				
Trp	Leu	Pro	Ser	Tyr	Lys	Leu	Lys	Ser	Ser	Trp	Ala	Thr	Gly	Leu	His
65					70					75				80	
Leu	Ser	Val	Leu	Phe	Gly	His	Val	Glu	Cys	Leu	Leu	Val	Leu	Leu	Asp
			85					90						95	
His	Asn	Ala	Thr	Ile	Asn	Cys	Arg	Pro	Asn	Gly	Lys	Thr	Pro	Leu	His
			100					105					110		
Val	Ala	Cys	Glu	Met	Ala	Asn	Val	Asp	Cys	Val	Lys	Ile	Leu	Cys	Asp
		115					120					125			
Arg	Gly	Ala	Lys	Leu	Asn	Cys	Tyr	Ser	Leu	Ser	Gly	His	Thr	Ala	Leu
	130					135					140				
His	Phe	Cys	Thr	Thr	Pro	Ser	Ser	Ile	Leu	Cys	Ala	Lys	Gln	Leu	Val
145					150					155				160	
Trp	Arg	Val	Thr	Gln	Val	Asn	His	Met	Leu	Gly	Asn	Ser	Leu	Val	Asn
			165					170					175		
Glu	Val	Glu	His	Val	Thr	Gln	Val	Asn	His	Met	Leu	Gly	Asn	Ser	Leu

```
<400> 4913
gtgccaatat gcaaaagagg tggcccagat gcaggcccgc cccctggagc ggccgaggt
60
gggggtgagg cctccgcggg cgccgctggc atcccagcgt tctctgcggg cgagggggg
120
ccgctcttgc ccggcgctggc gactcgctag cgtcagcagc gccgcagccg gacgagaaag
180
cggaagatgg cggcggcggc cgggaggccg tgaggagagc ggcggtctgc agggcgggcg
240
atggcgggcg ggaggcgccc tcggacactt gcgggtcggt agggcgcgac gctgggaggc
300
atgtcggagc acgtggagcc cgcagctccg gggcccgggc ccaacggcgg cggcggcggc
360
```

ccggcccccg cgcgcggggc tcgcaccccc aatctcaacc ccaaccccct catcaacgtg  
420  
cgcgaccggc tcttccacgc gctgttcttc aagatggctg tcacctattc gcggctcttc  
480  
ccgcccgcct tccgcgcgtct cttcgagtctc ttcgtgctgc tcaaggccct gtttgtgctc  
540  
ttcgctctgg cctacatcca catcgtcttc tcccgtctgc ccatcaactg cctggagcat  
600  
gtgctgaca agtggccgcg tgagggcatc ctgctgtgg aagtgcggca caactcgagc  
660  
cgcgcgcccg tcttcttaca gttctgtgac agcggcgggc gcgggagctt cccgggcctg  
720  
gccgtggaac caggcagcaa cctggacatg gaagatgagg aggaggaaga gctgaccatg  
780  
gagatgtttg ggaacagctc catcaagttt gagctggaca tcgagcccaa ggtgttcaag  
840  
ccgccgagta gcacagaggc cctgaatgac agccaggagt tccccttccc cgagacgccc  
900  
accaaagtgt ggccgcagga cgagtacatc gtggagtact cactagagta tggcttcctt  
960  
cgctgtcgc aggccacccg ccagcgctg agcatccccg tcatggtggt caccctggac  
1020  
cccacgcggg accagtgctt cggggaccgc ttcagccgcc tgetgctgga tgagttcctg  
1080  
ggctacgatg acatcctcat gtccagcgtg aagggcctgg ccgagaacga ggagaacaag  
1140  
ggcttctcgc ggaatgtggt gtcgggcgag cactaccgct ttgtgagcat gtggatggcg  
1200  
cggacgtcct acctggccgc cttcgccatc atggtcatct tcacgctgag cgtgtccatg  
1260  
ctgctgcggg actcacacca ccagatcttc gtcttcatcg tggacctgct gcagatgctg  
1320  
gagatgaaca tggccatcgc cttccccgca gcgcccctgc tgaccgtcat cctggccctc  
1380  
gtcgggatgg aggccatcat gtcggagtctc ttcaacgaca ccaccaccgc cttctacatc  
1440  
atcctcatcg tgtggctcgc ggaccagtat gacgccatct gctgccacac cagcaccagc  
1500  
aagcggcatt ggctgcgggt cttctatctc taccacttcg cttctatgc ctatcactac  
1560  
cgcttcaatg ggcagtatag cagcctggcc ctggtcacct cctggctctt catccagcat  
1620  
tccatgatct acttcttcca ccactatgag ctgcctgcca tcctgcagca ggtccgcatc  
1680  
caggagatgc tgcttcaggc gccgccactg ggccccggga ccccccacggc gctgcccgat  
1740  
gacatgaaca acaactcggg cgccccggct acagcccctg actctgcggg ccagcccccc  
1800  
gccctgggccc ccgtgtttga gctggtcagc aaggagaggg ggtgggggtc cgcggaaggt  
1860  
tctggagggg tcttggtagg tctgcagtga accgtcctga ggatggagtg gggctccatg  
1920  
gtgcaggtct ctgagcaagg cggaggtgtg gaggagaggc cggcttgggg tggggcctcg  
1980

cgccctagtg ccggccggcc tcagcccggc tctgcctggt gctccctgca gtgccttctc  
2040

catggccccg ccttccccgc gtgtgcgcca ggcttggggg ccccgggaga  
2090

<210> 4914

<211> 529

<212> PRT

<213> Homo sapiens

<400> 4914

Met	Ser	Glu	His	Val	Glu	Pro	Ala	Ala	Pro	Gly	Pro	Gly	Pro	Asn	Gly
1				5					10					15	
Gly	Gly	Gly	Gly	Pro	Ala	Pro	Ala	Arg	Gly	Pro	Arg	Thr	Pro	Asn	Leu
			20					25					30		
Asn	Pro	Asn	Pro	Leu	Ile	Asn	Val	Arg	Asp	Arg	Leu	Phe	His	Ala	Leu
		35				40					45				
Phe	Phe	Lys	Met	Ala	Val	Thr	Tyr	Ser	Arg	Leu	Phe	Pro	Pro	Ala	Phe
	50					55				60					
Arg	Arg	Leu	Phe	Glu	Phe	Phe	Val	Leu	Leu	Lys	Ala	Leu	Phe	Val	Leu
65					70					75				80	
Phe	Val	Leu	Ala	Tyr	Ile	His	Ile	Val	Phe	Ser	Arg	Ser	Pro	Ile	Asn
				85					90					95	
Cys	Leu	Glu	His	Val	Arg	Asp	Lys	Trp	Pro	Arg	Glu	Gly	Ile	Leu	Arg
			100					105					110		
Val	Glu	Val	Arg	His	Asn	Ser	Ser	Arg	Ala	Pro	Val	Phe	Leu	Gln	Phe
		115					120					125			
Cys	Asp	Ser	Gly	Gly	Arg	Gly	Ser	Phe	Pro	Gly	Leu	Ala	Val	Glu	Pro
	130					135					140				
Gly	Ser	Asn	Leu	Asp	Met	Glu	Asp	Glu	Glu	Glu	Glu	Glu	Leu	Thr	Met
145					150					155				160	
Glu	Met	Phe	Gly	Asn	Ser	Ser	Ile	Lys	Phe	Glu	Leu	Asp	Ile	Glu	Pro
				165					170					175	
Lys	Val	Phe	Lys	Pro	Pro	Ser	Ser	Thr	Glu	Ala	Leu	Asn	Asp	Ser	Gln
		180						185					190		
Glu	Phe	Pro	Phe	Pro	Glu	Thr	Pro	Thr	Lys	Val	Trp	Pro	Gln	Asp	Glu
		195					200					205			
Tyr	Ile	Val	Glu	Tyr	Ser	Leu	Glu	Tyr	Gly	Phe	Leu	Arg	Leu	Ser	Gln
	210					215					220				
Ala	Thr	Arg	Gln	Arg	Leu	Ser	Ile	Pro	Val	Met	Val	Val	Thr	Leu	Asp
225					230					235				240	
Pro	Thr	Arg	Asp	Gln	Cys	Phe	Gly	Asp	Arg	Phe	Ser	Arg	Leu	Leu	Leu
				245					250					255	
Asp	Glu	Phe	Leu	Gly	Tyr	Asp	Asp	Ile	Leu	Met	Ser	Ser	Val	Lys	Gly
		260					265						270		
Leu	Ala	Glu	Asn	Glu	Glu	Asn	Lys	Gly	Phe	Leu	Arg	Asn	Val	Val	Ser
		275					280					285			
Gly	Glu	His	Tyr	Arg	Phe	Val	Ser	Met	Trp	Met	Ala	Arg	Thr	Ser	Tyr
	290					295					300				
Leu	Ala	Ala	Phe	Ala	Ile	Met	Val	Ile	Phe	Thr	Leu	Ser	Val	Ser	Met
305					310					315				320	
Leu	Leu	Arg	Tyr	Ser	His	His	Gln	Ile	Phe	Val	Phe	Ile	Val	Asp	Leu
				325					330					335	
Leu	Gln	Met	Leu	Glu	Met	Asn	Met	Ala	Ile	Ala	Phe	Pro	Ala	Ala	Pro

```

          340          345          350
Leu Leu Thr Val Ile Leu Ala Leu Val Gly Met Glu Ala Ile Met Ser
          355          360          365
Glu Phe Phe Asn Asp Thr Thr Thr Ala Phe Tyr Ile Ile Leu Ile Val
          370          375          380
Trp Leu Ala Asp Gln Tyr Asp Ala Ile Cys Cys His Thr Ser Thr Ser
385          390          395          400
Lys Arg His Trp Leu Arg Phe Phe Tyr Leu Tyr His Phe Ala Phe Tyr
          405          410          415
Ala Tyr His Tyr Arg Phe Asn Gly Gln Tyr Ser Ser Leu Ala Leu Val
          420          425          430
Thr Ser Trp Leu Phe Ile Gln His Ser Met Ile Tyr Phe Phe His His
          435          440          445
Tyr Glu Leu Pro Ala Ile Leu Gln Gln Val Arg Ile Gln Glu Met Leu
          450          455          460
Leu Gln Ala Pro Pro Leu Gly Pro Gly Thr Pro Thr Ala Leu Pro Asp
465          470          475          480
Asp Met Asn Asn Asn Ser Gly Ala Pro Ala Thr Ala Pro Asp Ser Ala
          485          490          495
Gly Gln Pro Pro Ala Leu Gly Pro Val Phe Glu Leu Val Ser Lys Glu
          500          505          510
Arg Gly Trp Gly Ser Ala Glu Gly Ser Gly Gly Val Leu Val Gly Leu
          515          520          525
Gln

```

&lt;210&gt; 4915

&lt;211&gt; 1157

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4915

```

gcacaggaag ctgctttatt cttgctgaga gacaggggct gctgcccaca cacagaccct
60
gtgtccaccc tgcagaaaag gccaggaggg cctgcagagc tgggaagcgc cacccaaggg
120
tctcagtcac caagactgca ggagaggcaa ggccatgtca ggcctggcag ctgtggctgg
180
ggccaggagg gagggaccag gcccatgtgg gaacaggaca aatgcccag gccacatcct
240
tcgtccacag tcttgaggct cctgccaggc tgacaggaaa cagcccagag ctgaggtctt
300
tgagccggtc attccaacat tgcaagcacc acccagtcct cctggctgaa gttgagttag
360
gtaagaaggg cccgtggcca gggacaggga gggccctcag gaggctccca gggctgctgc
420
tgaggccggg cagcgtccta ggctcaagg acactccttt ctcccgcgtg ccccaagcca
480
ccatggcagc agcatcaggg ctgtgccgcc tcatcccat cctgtctgg gcagatgtga
540
agggtgaccg tctccccac tgtcccgaag ttgacggtct ggggtggaaag ctctgtggtg
600
aagctgctct ggccactgtc cgcagaacgc cggatgcggg tgcagaaaga ctgcgtccag
660

```

ggagcactgc ccacaggccg agccggggcc tcccgcaaga ggaaggaggt gccctcaagg  
 720  
 ctacggacct ggggtcccg tggtagcgcc ccacggggct caggcctaaa gaggccgaga  
 780  
 gggcctcggg gaccagtgcc agcccccacgc tgagcagcac aggctgcccc accgtgggct  
 840  
 ccccgatctc tctctggatc accgagacct cgcagggagg gtcctcaggg gcgccaggcc  
 900  
 caggggccacc acagtggaag gtctcccctt cccagggcac gtaatcttcc aggtcagcca  
 960  
 gtgtcagcat gcggccgttg tgcgtgagga tcttggggtc acgatcccca aggtgtgtg  
 1020  
 tgctctggga ctctccgtc acaaagagag tctccgtctt cccctcttcc ctagtcccg  
 1080  
 ctctccatc gtgcccctc cctccaggct gcccatgcca gaacggagag agaactagtt  
 1140  
 ctctctctct ctctctc  
 1157

<210> 4916

<211> 59

<212> PRT

<213> Homo sapiens

<400> 4916

Met	Arg	Val	Gln	Lys	Asp	Cys	Val	Gln	Gly	Ala	Leu	Pro	Thr	Gly	Arg
1				5					10					15	
Ala	Gly	Ala	Ser	Arg	Lys	Arg	Lys	Glu	Val	Pro	Ser	Arg	Leu	Arg	Thr
			20					25					30		
Trp	Gly	Pro	Gly	Gly	Asp	Ala	Pro	Arg	Gly	Ser	Gly	Leu	Lys	Arg	Pro
		35					40					45			
Arg	Gly	Pro	Arg	Gly	Pro	Ser	Ala	Ala	Pro	Arg					
	50						55								

<210> 4917

<211> 1544

<212> DNA

<213> Homo sapiens

<400> 4917

cgaagcacct cctctctctg actttccgcc ttcccgtgc gaccccggtt ttgcccctct  
 60  
 ccagctccct cagccgcggg cacctgagct ctccgcggcc accagggggc gcccgcgggc  
 120  
 cagtctgggc gcgagagccg ccaagcgccc actccgttcc tctgggtgcc ccgccccgtc  
 180  
 cgcccgcggc cccgcccctc ccggcgcccc gcccggtccg gcagcggcct cgctccctcc  
 240  
 gatccccccc gcgcccggga cccctggccc cactgttggg ccagctcgcc gggctcgggc  
 300  
 atgggccccg ccgctcgccc cgcgctgaga tcgcccgcgc cgcctccgcc gccgcctccg  
 360  
 tctccgctgc tgctgctgct gccctgctg ccgctgtggc tgggcctggc ggggcccggg  
 420

gccgcggcgg acggcagcga gccggcggcc ggggcggggc ggggcggagc ccgcgcctg  
 480  
 cgggtggacg tgagactgcc gcgccaggac gctctggtcc tggagggcgt caggatcggc  
 540  
 tccgaagccg acccggcgcc cctgctgggc ggtcgtctgc tgctgatgga tgcgtggat  
 600  
 gctgagcagg aggcacccgc agatggctgg attgcagtgg catatgtggg caaggagcag  
 660  
 gcggcccagt tccaccagga gaataagggc agtggcccgc aggcctatcc caaggccctg  
 720  
 gtccagcaga tgcggcgggc cctcttctctg ggtgcctctg ccctgcttct tctcatcctg  
 780  
 aaccacaacg tgggccgaga gctggacata tcccagcttc tgctcaggcc agtgatcgtc  
 840  
 ctccattatt cctccaatgt caccaagctg ttggatgcat tgctgcagag gaccaggcc  
 900  
 acggctgaga tcaccagcgg agagtccctg tctgccata tcgagtggaa gttgacctg  
 960  
 tggaccacct gtggcctctc caaggatggc tatggaggat ggcaggactt ggtctgcctt  
 1020  
 ggaggcagtc gtgcccagga gcagaaaccc ctgcagcagc tgtggaacgc catcctgctg  
 1080  
 gtggccatgc tctgtgcac aggcctcgtg gtccaggccc agcggcaggc gtcgcggcag  
 1140  
 agccagcggg agctcggagg ccagggtggac ctgtttaagc gccgcgtggt gcggagactg  
 1200  
 gcatccctca agacacggcg ctgccggctg agcagggcag cgcagggcct ccagatccg  
 1260  
 ggtgctgaga cctgtgcggt gtgcctggac tacttctgca acaaacaggc tagtgccccg  
 1320  
 gtggctccgg gtgctgcct gtaagcacga gtttcaccga gactgtgtgg acccctggct  
 1380  
 gatgctccag cagacctgcc cactgtgcaa attcaacgtc ctgggtgagc accaggggtg  
 1440  
 gggtcctcctg gcctactctg cctgctcctc acctgatgcc tctctccctg ttcttcttcc  
 1500  
 cctccctgc agggaaaccgc tactccgatg attagctgcc cagc  
 1544

&lt;210&gt; 4918

&lt;211&gt; 347

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4918

Met	Gly	Pro	Ala	Ala	Arg	Pro	Ala	Leu	Arg	Ser	Pro	Pro	Pro	Pro	Pro
1				5				10					15		
Pro	Pro	Pro	Pro	Ser	Pro	Leu	Leu	Leu	Leu	Leu	Pro	Leu	Leu	Pro	Leu
			20					25					30		
Trp	Leu	Gly	Leu	Ala	Gly	Pro	Gly	Ala	Ala	Ala	Asp	Gly	Ser	Glu	Pro
		35					40				45				
Ala	Ala	Gly	Ala	Gly	Arg	Gly	Gly	Ala	Arg	Ala	Val	Arg	Val	Asp	Val
	50					55				60					
Arg	Leu	Pro	Arg	Gln	Asp	Ala	Leu	Val	Leu	Glu	Gly	Val	Arg	Ile	Gly

```

65          70          75          80
Ser Glu Ala Asp Pro Ala Pro Leu Leu Gly Gly Arg Leu Leu Leu Met
          85          90          95
Asp Val Val Asp Ala Glu Gln Glu Ala Pro Ala Asp Gly Trp Ile Ala
          100          105          110
Val Ala Tyr Val Gly Lys Glu Gln Ala Ala Gln Phe His Gln Glu Asn
          115          120          125
Lys Gly Ser Gly Pro Gln Ala Tyr Pro Lys Ala Leu Val Gln Gln Met
          130          135          140
Arg Arg Ala Leu Phe Leu Gly Ala Ser Ala Leu Leu Leu Leu Ile Leu
145          150          155          160
Asn His Asn Val Val Arg Glu Leu Asp Ile Ser Gln Leu Leu Leu Arg
          165          170          175
Pro Val Ile Val Leu His Tyr Ser Ser Asn Val Thr Lys Leu Leu Asp
          180          185          190
Ala Leu Leu Gln Arg Thr Gln Ala Thr Ala Glu Ile Thr Ser Gly Glu
          195          200          205
Ser Leu Ser Ala Asn Ile Glu Trp Lys Leu Thr Leu Trp Thr Thr Cys
          210          215          220
Gly Leu Ser Lys Asp Gly Tyr Gly Gly Trp Gln Asp Leu Val Cys Leu
225          230          235          240
Gly Gly Ser Arg Ala Gln Glu Gln Lys Pro Leu Gln Gln Leu Trp Asn
          245          250          255
Ala Ile Leu Leu Val Ala Met Leu Leu Cys Thr Gly Leu Val Val Gln
          260          265          270
Ala Gln Arg Gln Ala Ser Arg Gln Ser Gln Arg Glu Leu Gly Gly Gln
          275          280          285
Val Asp Leu Phe Lys Arg Arg Val Val Arg Arg Leu Ala Ser Leu Lys
          290          295          300
Thr Arg Arg Cys Arg Leu Ser Arg Ala Ala Gln Gly Leu Pro Asp Pro
305          310          315          320
Gly Ala Glu Thr Cys Ala Val Cys Leu Asp Tyr Phe Cys Asn Lys Gln
          325          330          335
Ala Ser Ala Pro Val Ala Pro Gly Ala Ala Leu
          340          345

```

&lt;210&gt; 4919

&lt;211&gt; 1362

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4919

```

ncggaggcgg gcacttgggg ggaaagttga gacgtgatta ccgggttggg cgggccccat
60
ctgggagggg tttgtgggtg aactcggggt ccaccgcccg ctgaggagat ggatgaggac
120
gggcttcctc tcatgggggtc aggcataagc ctgaccaagg tgccagctat tcaacagaaa
180
agaacggtgg cttttctaaa ccaatttggt gtgcacactg tacagttcct caaccgcttt
240
tctacagttt gtgaggagaa actggcagac ctttcacttc gtatccaaca aattgaaaca
300
actctcaata ttttagatgc aaagttgtca tctatcccag gcctagatga tgtcacagtt
360

```



gaagtatctc ctttaaagt caccagtgtc acaaattggag cacatcctga agccacttca  
 420  
 gagcaaccac agcagaacag tacacaagac tctggactac aggaaagtga agtatcagca  
 480  
 gaaaatatct taactgtagc caaggatcca agatatgcca gatattctcaa aatgggttcaa  
 540  
 gtgggtgtac cagtgtatggc aataagaaac aaaatgatat cagaaggact agaccagat  
 600  
 cttcttgaga ggccagatgc tccagtgcct gatggcgaaa gtgagaaaac tgtagaagaa  
 660  
 agttcagata gcgaatcttc ttttagtgat taagcttaat tttgataaga attacatatg  
 720  
 catgcatagg ggtacattta cattctgtaa gagattgagc ctgaactctc ttagtcataa  
 780  
 aaacatcaaa tggccacatg tccactacca agcttcttct atgttaaaaa aataataata  
 840  
 aagcagtttt aacctgcccc gtatgtcttg ttgctaaaat aanggccctc aaattgaaaa  
 900  
 ttnggatacc ctaaataaag taccaattag tgctccaaat actaagatag aatatttttag  
 960  
 agatgcaatg agcaattaca gtcaggcacg ggttgtcacg cctgtaatcc cagcactttg  
 1020  
 ggaggccgag gcgagtggat aacctgaggt caggagttca agaccagcct ggccaacatg  
 1080  
 gtgaaacctc catctctact aaaaatacaa aaagtagctg ggcgtggtga caaaaattag  
 1140  
 ctgggcgtag tggcaggtgc ctgtaatccc agctactcgg gaagctgagg caggagaatc  
 1200  
 acttgaaccc agaaggtaaa ggtttcagtg agctgagatt gcgtcattgc actccagcca  
 1260  
 tggcgacaag agtgaaacctc tgtcttaaaa ataaaaagag atgcaatgag caatttttaa  
 1320  
 tgaagtcagt gtgagtttag tgatcaatag tagaccaat gc  
 1362

&lt;210&gt; 4920

&lt;211&gt; 194

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4920

Met	Asp	Glu	Asp	Gly	Leu	Pro	Leu	Met	Gly	Ser	Gly	Ile	Asp	Leu	Thr
1				5					10					15	
Lys	Val	Pro	Ala	Ile	Gln	Gln	Lys	Arg	Thr	Val	Ala	Phe	Leu	Asn	Gln
			20					25					30		
Phe	Val	Val	His	Thr	Val	Gln	Phe	Leu	Asn	Arg	Phe	Ser	Thr	Val	Cys
		35				40					45				
Glu	Glu	Lys	Leu	Ala	Asp	Leu	Ser	Leu	Arg	Ile	Gln	Gln	Ile	Glu	Thr
	50				55					60					
Thr	Leu	Asn	Ile	Leu	Asp	Ala	Lys	Leu	Ser	Ser	Ile	Pro	Gly	Leu	Asp
65				70					75					80	
Asp	Val	Thr	Val	Glu	Val	Ser	Pro	Leu	Asn	Val	Thr	Ser	Val	Thr	Asn
			85					90					95		
Gly	Ala	His	Pro	Glu	Ala	Thr	Ser	Glu	Gln	Pro	Gln	Gln	Asn	Ser	Thr

```

<400> 4921
ngggttggtag cttctatcct gggggctgag cgactgcggg ccagctcttc ccctactccc
60
tctcggctcc ttgtggccca aaggccctaa ccgggggtccg gcgggtctgtg ccctagggta
120
tcttccccgt tgcccccttg gggcgggatg gctgcggaag aagaagacga ggtggagtgg
180
gtagtggaga gcacgcggg gtcctgcga ggcccagact ggtccatccc catcttggac
240
tttgtggaac agaaatgtga agtttttgat gatgaagaag aaagcaaatt gacctataca
300
gagattcatc aggaatacaa agaactagtt gaaaagctgt tagaagggtta cctcaaagaa
360
attggaatta atgaagatca atttcaagaa gcatgcactt ctctcttgc aaagacccat
420
acatcacagg ccattttgca acctgtgttg gcagcagaag attttactat ctttaaagca
480
atgatggtcc agaaaaacat tgaaatgcag ctgcaagcca ttcgaataat tcaagagaga
540
aatgggtgtat tacctgactg cttaaccgat ggctctgatg tggtcagtga ccttgaacac
500
gaagagatga aaatcctgag ggaagttctt agaaaatcaa aagaggaata tgaccaggaa
560
gaagaaagga agaggaaaaa acagttatca gaggctaaaa cagaagagcc cacagtgcac
620
ccagtgaag ctgcaataat gaataattcc caaggggatg gtgaacattt tgcacaccca
680
cctcagaag ttaaaatgca ttttgctaag cagtcaatag aacctttggg aagaaaagtg
740
aaagggtctg aaacttcctc cctcccacaa aaaggcctga agattcctgg cttagagcat
800
cgagcattg aaggaccaat agcaaactta tcagtacttg gaacagaaga acttcggcaa
860
gagaacact atctcaagca gaagagagat aagttgatgt ccatgagaaa ggatatgagg
920

```

actaaacaga tacaaaatat ggagcagaaa ggaaaaccca ctggggaggt agaggaaatg  
 1080  
 acagagaaac cagaaatgac agcagaggag aagcaaacat tactaaagag gagattgctt  
 1140  
 gcagagaaac tcaaagaaga agttattaat aagtaataat taagaacaat ttaacaaaat  
 1200  
 ggaagttcaa attgtcttaa aaataaatta tttagtcctt acactgaaaa aaaaaaaaaa  
 1260  
 aaaaaataaa aa  
 1272

<210> 4922

<211> 342

<212> PRT

<213> Homo sapiens

<400> 4922

Met	Ala	Ala	Glu	Glu	Glu	Asp	Glu	Val	Glu	Trp	Val	Val	Glu	Ser	Ile
1			5						10				15		
Ala	Gly	Leu	Leu	Arg	Gly	Pro	Asp	Trp	Ser	Ile	Pro	Ile	Leu	Asp	Phe
		20					25					30			
Val	Glu	Gln	Lys	Cys	Glu	Val	Phe	Asp	Asp	Glu	Glu	Glu	Ser	Lys	Leu
	35					40					45				
Thr	Tyr	Thr	Glu	Ile	His	Gln	Glu	Tyr	Lys	Glu	Leu	Val	Glu	Lys	Leu
50					55					60					
Leu	Glu	Gly	Tyr	Leu	Lys	Glu	Ile	Gly	Ile	Asn	Glu	Asp	Gln	Phe	Gln
65				70				75					80		
Glu	Ala	Cys	Thr	Ser	Pro	Leu	Ala	Lys	Thr	His	Thr	Ser	Gln	Ala	Ile
		85						90				95			
Leu	Gln	Pro	Val	Leu	Ala	Ala	Glu	Asp	Phe	Thr	Ile	Phe	Lys	Ala	Met
		100						105				110			
Met	Val	Gln	Lys	Asn	Ile	Glu	Met	Gln	Leu	Gln	Ala	Ile	Arg	Ile	Ile
	115						120				125				
Gln	Glu	Arg	Asn	Gly	Val	Leu	Pro	Asp	Cys	Leu	Thr	Asp	Gly	Ser	Asp
	130					135					140				
Val	Val	Ser	Asp	Leu	Glu	His	Glu	Glu	Met	Lys	Ile	Leu	Arg	Glu	Val
145					150				155					160	
Leu	Arg	Lys	Ser	Lys	Glu	Glu	Tyr	Asp	Gln	Glu	Glu	Glu	Arg	Lys	Arg
		165						170				175			
Lys	Lys	Gln	Leu	Ser	Glu	Ala	Lys	Thr	Glu	Glu	Pro	Thr	Val	His	Ser
	180							185				190			
Ser	Glu	Ala	Ile	Met	Asn	Asn	Ser	Gln	Gly	Asp	Gly	Glu	His	Phe	
	195					200				205					
Ala	His	Pro	Pro	Ser	Glu	Val	Lys	Met	His	Phe	Ala	Asn	Gln	Ser	Ile
	210					215				220					
Glu	Pro	Leu	Gly	Arg	Lys	Val	Glu	Arg	Ser	Glu	Thr	Ser	Ser	Leu	Pro
225				230					235					240	
Gln	Lys	Gly	Leu	Lys	Ile	Pro	Gly	Leu	Glu	His	Ala	Ser	Ile	Glu	Gly
		245						250					255		
Pro	Ile	Ala	Asn	Leu	Ser	Val	Leu	Gly	Thr	Glu	Glu	Leu	Arg	Gln	Arg
	260							265				270			
Glu	His	Tyr	Leu	Lys	Gln	Lys	Arg	Asp	Lys	Leu	Met	Ser	Met	Arg	Lys
	275						280				285				
Asp	Met	Arg	Thr	Lys	Gln	Ile	Gln	Asn	Met	Glu	Gln	Lys	Gly	Lys	Pro

290                                      295                                      300  
 Thr Gly Glu Val Glu Glu Met Thr Glu Lys Pro Glu Met Thr Ala Glu  
 305                                      310                                      315                                      320  
 Glu Lys Gln Thr Leu Leu Lys Arg Arg Leu Leu Ala Glu Lys Leu Lys  
                                     325                                      330                                      335  
 Glu Glu Val Ile Asn Lys  
                                     340

<210> 4923

<211> 765

<212> DNA

<213> Homo sapiens

<400> 4923

tctccagccc cggatgaggg gcctcaggct tcggctgggc cacaggaggt ggggtctctg  
 60  
 aagccttctg ctctnctcc aaggacctca tttagctccg ccagcaggtc atcatcagcc  
 120  
 tccaagtcgt cctcatcgt cccctctctc tcctctctat ccgggtctct catgcacagg  
 180  
 ctggccatct tctcaatggc ctccatcggc aaggacatt tgcctttgag cttctccagg  
 240  
 gctggggggt ggcccccgac caaagccaag aactcagcct ccagttcttc atcgttagcc  
 300  
 ccgtcctcag ggatcatcag gccatctggg gagaggtcaa ccagcaggcc cagctggcgg  
 360  
 gcggccgcgg cgcctctgcc cgggggtccc gggggtcctt cctcttggtc atcttcaagg  
 420  
 ctgggatgcc ggaccacctg cccccaagcc cggccttgcc ctgccccctc cccgggctct  
 480  
 gtcgccgcgc actcgccctt cctgagtcct gcactcctcg tcggcgccct gcggccggtc  
 540  
 gatccccgagc cctcgcttcc ctgcttgccc gtcccacttc cgcctcgggc ctcgggcgcc  
 600  
 gccgcacctn ggagcgcggc cagctgggct cgccgaggtc tgccgagccg aaactacaac  
 660  
 tcccggcaga tttctcaagg ggaagataaa atgactaaga ggaagaagct gcggacctca  
 720  
 gctcccctga tgaggaaaca ggatctcctt gccggctcct ccgtc  
 765

<210> 4924

<211> 255

<212> PRT

<213> Homo sapiens

<400> 4924

Ser Pro Ala Pro Asp Glu Gly Pro Gln Ala Ser Ala Gly Pro Gln Glu  
 1                                      5                                      10                                      15  
 Val Gly Ser Leu Lys Pro Ser Ala Pro Xaa Pro Arg Thr Ser Phe Ser  
                                     20                                      25                                      30  
 Ser Ala Ser Arg Ser Ser Ser Ala Ser Lys Ser Ser Ser Ser Val Pro  
                                     35                                      40                                      45  
 Ser Ser Ser Ser Ser Ser Gly Ser Leu Met His Arg Leu Ala Ile Phe

50	55	60
Ser Met Ala Ser Ile Gly Lys Gly Pro Leu Pro Leu Ser Phe Ser Arg		
65	70	75
Ala Gly Gly Trp Pro Pro Thr Lys Ala Lys Asn Ser Ala Ser Ser Ser		80
	85	90
Ser Ser Leu Ala Pro Ser Ser Gly Ile Ile Arg Pro Ser Gly Glu Arg		95
	100	105
Ser Thr Ser Arg Pro Ser Trp Arg Ala Ala Ala Ala Pro Leu Pro Gly		110
	115	120
Gly Pro Gly Gly Pro Ser Ser Cys Ala Ser Ser Arg Leu Asp Ala Arg		125
	130	135
Thr Thr Cys Pro Gln Ala Arg Pro Cys Pro Ala Pro Ser Pro Gly Ser		140
145	150	155
Val Ala Ala His Ser Pro Phe Leu Ser Pro Ala Leu Leu Val Gly Ala		160
	165	170
Leu Arg Pro Val Asp Pro Glu Pro Ser Leu Pro Cys Leu Ala Val Pro		175
	180	185
Leu Pro Pro Arg Ala Ser Gly Ala Ala Ala Pro Xaa Ser Ala Ala Ser		190
	195	200
Trp Ala Arg Arg Gly Leu Pro Ser Arg Asn Tyr Asn Ser Arg Gln Ile		205
	210	215
Ser Gln Gly Glu Asp Lys Met Thr Lys Arg Lys Lys Leu Arg Thr Ser		220
225	230	235
Ala Pro Leu Met Arg Lys Gln Asp Leu Pro Ala Gly Ser Ser Val		240
	245	250
		255

&lt;210&gt; 4925

&lt;211&gt; 374

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4925

gccaatattgg agaaagagct ccaggagatg gaggcacggt acgagaagga gtttggagat  
 60  
 ggatcggtatg aaaatgaaat ggaagaacat gaactcaaag atgaggagga tggtaaagac  
 120  
 agtgatgagg ccgaggacgc tgagctctat gatgaccttt actgcccagc atgtgacaaa  
 180  
 tcgttcaaga cagaaaaggc catgaagaat caccgagaagt caaagaagca tcgggaaatg  
 240  
 gtggccttgc taaaacaaca gctggaggag gaagaagaaa atttttcaag acctcaaatt  
 300  
 gatgaaaatc cattagatga caattctgag gaagaaatgg aagatgcacc aaaacaaaag  
 360  
 ctttctaaaa aaaa  
 374

&lt;210&gt; 4926

&lt;211&gt; 124

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4926

Ala Asn Leu Glu Lys Glu Leu Gln Glu Met Glu Ala Arg Tyr Glu Lys

```

1           5           10           15
Glu Phe Gly Asp Gly Ser Asp Glu Asn Glu Met Glu Glu His Glu Leu
20           25           30
Lys Asp Glu Glu Asp Gly Lys Asp Ser Asp Glu Ala Glu Asp Ala Glu
35           40           45
Leu Tyr Asp Asp Leu Tyr Cys Pro Ala Cys Asp Lys Ser Phe Lys Thr
50           55           60
Glu Lys Ala Met Lys Asn His Glu Lys Ser Lys Lys His Arg Glu Met
65           70           75           80
Val Ala Leu Leu Lys Gln Gln Leu Glu Glu Glu Glu Glu Asn Phe Ser
85           90           95
Arg Pro Gln Ile Asp Glu Asn Pro Leu Asp Asp Asn Ser Glu Glu Glu
100          105          110
Met Glu Asp Ala Pro Lys Gln Lys Leu Ser Lys Lys
115          120

```

&lt;210&gt; 4927

&lt;211&gt; 1649

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4927

```

atccaccgct gagctgggag aaagatggcg gccgtgcgac aggatttggc ccagctcatg
60
aattcgagcg gctctcataa agatctggct ggcaagtatc gtcagatcct ggaaaaagcc
120
attcagttat ctggagcaga acaactagaa gctttgaaag cttttgtgga agcaatggta
180
aatgagaatg tcagtctcgt gatctcgcg cagttgctga ctgatttttg cacacatctt
240
cctaacttgc ctgatagcac agccaaagaa atctatcaact tcaccttgga aaagatccag
300
cctagagtca tttcatttga ggagcaggtt gcttcataa gacagcatct tgcattctata
360
tatgagaaag aagaagattg gagaaatgca gcccaagtgt tgggtgggaat tcctttggaa
420
acaggacaaa aacagtacaa tgtagattat aaactggaga cttacttgaa gattgctagg
480
ctatatctgg aggatgatga tccagtccag gcagaggctt acataaatcg agcatcggtg
540
cttcagaatg aatcaaccaa tgaacaatta cagatacatt ataaggatg ctatgcacgt
600
gttcttgatt atagaagaaa attcattgaa gctgcacaaa ggtacaatga gctctcttac
660
aagacaatag tccacgaaag tgaaagacta gaggccttaa aacatgcttt gcactgtacg
720
atcttagcat cagcaggaca gcagcgttct cggatgctgg ctaccctttt taaggatgaa
780
agggtgccagc aacttgctgc ttatgggatc ctagagaaaa tgtatctaga caggatcatc
840
agaggggaacc agcttcaaga atttgctgcc atgctgatgc ctcacaaaaa agcaactaca
900
gctgatgggt ccagcatctt ggacagagct gttattgaac acaatttggt gtctgcaagc
960

```

aaattatata ataatattac cttcgaagaa cttggagctc ttttagagat ccctgcagct  
 1020  
 aaggcggaag agatagcatc tcaaatgata accgaaggac gtatgaatgg atttattgac  
 1080  
 cagattgatg gaatagttca ttttgaaaca cgagaagccc tgccaacgtg ggataagcag  
 1140  
 atccaatcac tttgtttcca agtgaataac cttttggaga aaattagtca aacagcacca  
 1200  
 gaatggacag cacaagccat ggaagcccag atggctcagt gaatccttgc agaacttctg  
 1260  
 tgcacatgac atctttttcc atgttgtgca gatcagtttc actatctcca aagcatttgc  
 1320  
 atcatgacct tatacatttc aatccctttt atgctggatt ccgtttaaag aagacattat  
 1380  
 tagagcagga agtacaagca tttaaaatat gtagttccca tatatttcag ggtctctgtg  
 1440  
 tattaagcta actcagatgt tttgaaagct ttttctttaa acagaggtga aatatctgtg  
 1500  
 gctaaaaagt ttgagatttg tgataacttt gtagtcatgt aaaacttaag tgcttcatgc  
 1560  
 ctctccaaat gtggttattc taataaatgg agaaatgagc caaaaaaaag tagtactttg  
 1620  
 tttttaaaaa aaaaaaaaaa aaaaaaaaaa  
 1649

&lt;210&gt; 4928

&lt;211&gt; 405

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4928

Met	Ala	Ala	Val	Arg	Gln	Asp	Leu	Ala	Gln	Leu	Met	Asn	Ser	Ser	Gly
1				5					10					15	
Ser	His	Lys	Asp	Leu	Ala	Gly	Lys	Tyr	Arg	Gln	Ile	Leu	Glu	Lys	Ala
			20					25					30		
Ile	Gln	Leu	Ser	Gly	Ala	Glu	Gln	Leu	Glu	Ala	Leu	Lys	Ala	Phe	Val
		35					40					45			
Glu	Ala	Met	Val	Asn	Glu	Asn	Val	Ser	Leu	Val	Ile	Ser	Arg	Gln	Leu
		50				55					60				
Leu	Thr	Asp	Phe	Cys	Thr	His	Leu	Pro	Asn	Leu	Pro	Asp	Ser	Thr	Ala
65					70				75					80	
Lys	Glu	Ile	Tyr	His	Phe	Thr	Leu	Glu	Lys	Ile	Gln	Pro	Arg	Val	Ile
			85					90					95		
Ser	Phe	Glu	Glu	Gln	Val	Ala	Ser	Ile	Arg	Gln	His	Leu	Ala	Ser	Ile
		100						105				110			
Tyr	Glu	Lys	Glu	Glu	Asp	Trp	Arg	Asn	Ala	Ala	Gln	Val	Leu	Val	Gly
		115				120						125			
Ile	Pro	Leu	Glu	Thr	Gly	Gln	Lys	Gln	Tyr	Asn	Val	Asp	Tyr	Lys	Leu
		130				135					140				
Glu	Thr	Tyr	Leu	Lys	Ile	Ala	Arg	Leu	Tyr	Leu	Glu	Asp	Asp	Asp	Pro
145				150					155						160
Val	Gln	Ala	Glu	Ala	Tyr	Ile	Asn	Arg	Ala	Ser	Leu	Leu	Gln	Asn	Glu
			165					170					175		
Ser	Thr	Asn	Glu	Gln	Leu	Gln	Ile	His	Tyr	Lys	Val	Cys	Tyr	Ala	Arg

180 185 190  
 Val Leu Asp Tyr Arg Arg Lys Phe Ile Glu Ala Ala Gln Arg Tyr Asn  
 195 200 205  
 Glu Leu Ser Tyr Lys Thr Ile Val His Glu Ser Glu Arg Leu Glu Ala  
 210 215 220  
 Leu Lys His Ala Leu His Cys Thr Ile Leu Ala Ser Ala Gly Gln Gln  
 225 230 235 240  
 Arg Ser Arg Met Leu Ala Thr Leu Phe Lys Asp Glu Arg Cys Gln Gln  
 245 250 255  
 Leu Ala Ala Tyr Gly Ile Leu Glu Lys Met Tyr Leu Asp Arg Ile Ile  
 260 265 270  
 Arg Gly Asn Gln Leu Gln Glu Phe Ala Ala Met Leu Met Pro His Gln  
 275 280 285  
 Lys Ala Thr Thr Ala Asp Gly Ser Ser Ile Leu Asp Arg Ala Val Ile  
 290 295 300  
 Glu His Asn Leu Leu Ser Ala Ser Lys Leu Tyr Asn Asn Ile Thr Phe  
 305 310 315 320  
 Glu Glu Leu Gly Ala Leu Leu Glu Ile Pro Ala Ala Lys Ala Glu Lys  
 325 330 335  
 Ile Ala Ser Gln Met Ile Thr Glu Gly Arg Met Asn Gly Phe Ile Asp  
 340 345 350  
 Gln Ile Asp Gly Ile Val His Phe Glu Thr Arg Glu Ala Leu Pro Thr  
 355 360 365  
 Trp Asp Lys Gln Ile Gln Ser Leu Cys Phe Gln Val Asn Asn Leu Leu  
 370 375 380  
 Glu Lys Ile Ser Gln Thr Ala Pro Glu Trp Thr Ala Gln Ala Met Glu  
 385 390 395 400  
 Ala Gln Met Ala Gln  
 405

<210> 4929  
 <211> 5907  
 <212> DNA  
 <213> Homo sapiens

<400> 4929  
 ntaatcgcg ggcgtttggc gccatcttta gatggcgagg gtaagaggaa aacgattgtg  
 60  
 aggcgggaac ggctttctgc tgcctttttt gggcccgaa aagggtcagc tggccgggct  
 120  
 ttggggcgcg tgccctgagg cgcggagcgc gtttgctacg atgcgggggc tgctcggggc  
 180  
 tccgtccctt gggctgggga cgcgccgaat gtgaccgcct cccgctccct caccgcgcgc  
 240  
 ggggaggagg agcgggagag aagctgccgc cgaacgacag gacgttgggg cggcctggct  
 300  
 ccctcaggta taagtattgt ttaagctgca tcaatggagc acatacaggg agcttgggaag  
 360  
 acgatcagca atggttttgg attcaaagat gccgtgtttg atggctccag ctgcattctt  
 420  
 cctacaatag ttcagcagtt tggtatcag cgccgggcat cagatgatgg caaactcaca  
 480  
 gatccttcta agacaagcaa cactatccgt gttttcttgc cgaacaagca aagaacagtg  
 540



gtcaatgtgc gaaatggaat gagcttgcac gactgcctta tgaaagcact caaggtgagg  
600  
ggcctgcaac cagagtgtctg tgcagtgttc agacttctcc acgaacacaa aggtaaaaaa  
660  
gcacgcttag attggaatac tgatgctgcg tctttgattg gagaagaact tcaagtagat  
720  
ttcctggatc atgttccccct cacaacacac aactttgctc ggaagacgtt cctgaagctt  
780  
gccttctgtg acatctgtca gaaattcctg ctcaatggat ttcgatgtca gacttgtggc  
840  
tacaaatttc atgagcactg tagcaccaaa gtacctacta tgttgtgtga ctggagtaac  
900  
atcagacaac tcttattgtt tccaaattcc actattggtg atagtggagt cccagcacta  
960  
ccttctttga ctatgcgtcg tatgcgagag tctgtttcca ggatgcctgt tagttctcag  
1020  
cacagatatt ctacacctca cgccttcacc tttaacacct ccagtccctc atctgaaggt  
1080  
tccctctccc agaggcagag gtcgacatcc acacctaatg tccacatggt cagcaccacc  
1140  
ctgcctgtgg acagcaggat gattgaggat gcaattcgaa gtcacagcga atcagcctca  
1200  
ccttcagccc tgtccagtag ccccaacaat ctgagcccaa caggctggtc acagccgaaa  
1260  
acccccgtgc cagcacaaaag agagcgggca ccagtatctg ggacccagga gaaaaacaaa  
1320  
attaggcctc gtggacagag agattcaagc tattattggg aaatagaagc cagtgaagtg  
1380  
atgctgtcca ctcggtattg gtcaggctct tttggaactg tttataaggg taaatggcac  
1440  
ggagatgttg cagtaaagat cctaaagggt gtcgacccaa ccccagagca attccaggcc  
1500  
ttcaggaatg aggtggctgt tctgcgcaaa acacggcatg tgaacattct gcttttcatg  
1560  
gggtacatga caaaggacaa cctggcaatt gtgaccaggt ggtgagaggg cagcagcctc  
1620  
tacaaacacc tgcattgtca ggagaccaag tttcagatgt tccagctaatt tgacattgcc  
1680  
cggcagacgg ctccagggaat ggactatctg catgcaaaga acatcatcca tagagacatg  
1740  
aaatccaaca atatatttct ccatgaaggc ttaacagtga aaattggaga ttttggtttg  
1800  
gcaacagtaa agtcacgctg gagtgggtct cagcaggttg aacaacctac tggctctgtc  
1860  
ctctggatgg cccagagggt gatccgaatg caggataaca acccattcag tttccagtcg  
1920  
gatgtctact cctatggcat cgtattgtat gaactgatga cgggggagct tccttattct  
1980  
cacatcaaca accgagatca gatcatcttc atgggtgggccc gaggatatgc ctcccagat  
2040  
cttagtaagc tatataagaa ctgccccaaa gcaatgaaga ggctggtagc tgactgtgtg  
2100  
aagaaagtaa aggaagagag gcctcttttt cccagatcc tgtcttccat tgagctgctc  
2160

caacactctc taccgaagat caaccggagc gcttccgagc catccttgca tcgggcagcc  
2220  
cacactgagg atatcaatgc ttgcacgctg accacgtccc cgaggctgcc tgtcttctag  
2280  
ttgactttgc acctgtcttc aggctgccag gggaggagga gaagccagca ggcaccactt  
2340  
ttctgtctcc tttctccaga ggcagaacac atgttttcag agaagctgct gctaaggacc  
2400  
ttctagactg ctcacagggc cttaacttca tgttgccctc tttctatcc ctttggggcc  
2460  
ctgggagaag gaagccattt gcagtgtgg tgtgtctgc tccctcccca cattcccat  
2520  
gctcaaggcc cagccttctg tagatgcgca agtggatgtt gatggtagta caaaaagcag  
2580  
gggcccagcc ccagctgttg gctacatgag tatttagagg aagtaaggta gcaggcagtc  
2640  
cagccctgat gtggagacac atgggatttt ggaaatcagc ttctggagga atgcatgtca  
2700  
caggcgggac tttcttcaga gagtgggtgca ggcgcagaca ttttgcatat aaggcaccaa  
2760  
acagcccagg actgccgaga ctctggccgc ccgaaggagc ctgctttggt actatggaac  
2820  
ttttcttagg ggacacgtcc tcctttcaca gcttctaagg tgtccagtgc attgggatgg  
2880  
ttttccaggc aaggcactcg gccaatccgc atctcagccc tctcagggag cagtcttcca  
2940  
tcatgctgaa ttttgtcttc caggagctgc ccctatgggg cggggccgca gggccagcct  
3000  
tgtttctcta caaacaacaa aacaacacag cttgtttctc taacaacaa gggccagcct  
3060  
tgtttctcta acaacaacaa aaacaacag ccttgtttct ctagtcacat catgtgtata  
3120  
caaggaagcc aggaatacag gttttcttga tgatttgggt ttaattttg tttttattgc  
3180  
acctgacaaa atacagttat ctgatggctc ctcaattatg ttattttaat aaaataaatt  
3240  
aaatttaggt gtaatggctg gctgttacct ccttttaaag taattctgag ctcacaactt  
3300  
gaatgcccc tttgttcacc ctcttcagga gcagaattca agaacaggaa atgtgcccag  
3360  
agcctaggct gggaatgaat ttgtaattta accttgtac tctttgtaaa cctctactga  
3420  
agagttaagt ataaaaatta attaagcaga aagtactcta aactcagcta ataccttaag  
3480  
taatacattt tataaactat ttatttattt ggtaggtaca gcttttttaa acacaaaaat  
3540  
agattagata aattccagct tggaacaagc tagtgctggt tcacaagggt gtgctcacc  
3600  
ttcaattaaa atcaaatga ctacaagact tgccatcagc tctcttcagg accactgctg  
3660  
ggtcagaatc agaaaccttg ggtgccatga aatttttaca aaatttcaaa tcaaagccag  
3720  
gctttgcagc tagataatag atcacttgag tacgaaccac acatgtaagt gcacgtatat  
3780

ttgagttctc aatacaatta cctgatggg caagaacca caggtgagag cagaggcttg  
3840  
gttcccctag agggccctgg ctggaggccc caacaccaac cagacgacag gagggccaga  
3900  
ctgctacca gtactgtacc tcctgctcct tcaagagcct ccctaaggga gaagaagatc  
3960  
tatacttcca ctttgtttgc tgcacatgtg gcaacaagat tgctaccctg atttgggaca  
4020  
cttgagagaa cttgaaaaaa atgaccaccc ttaaagccct agaaaaaagt tgtatgtttg  
4080  
ttaaccagct aatctgcgct cacttggcat tgtgtgttct tgaaagctct gtataaatca  
4140  
aaattttgac gacacactaa atacactaga gaaatacact atagaggaat ccttttatag  
4200  
ggctgaagac tcctttggta agaaaaatat gctgcattag gggcagctgc aagtttacta  
4260  
tttctgggga agaaaagatc aaagataaga gccaggtttg ttttttaaag caatcaatcc  
4320  
aaacagtttg ggtgtttgtt agttgttacc cctgaggggc ttgaggtgta actatatcag  
4380  
ctataaaaaat agcaattcca tacatttaat taggttactt tatatcttcc actcttcccc  
4440  
atggctgtaa taatggagat tgaatgagac taaggctaag cccaactcca ctcaaatacca  
4500  
agtcacacgt caccttggct gcagtacagg gaagctccgc acaccctggc ttgggaaagt  
4560  
ttcgccgat ggagcccaag atgcagggca accatctact ctttaggggt ctgatgattc  
4620  
cactccagaa aggtgcatga agaggteccc gagctctgtc atgtcgacat cttcattgtt  
4680  
ggggacatgc cggttttctc ggttctcgat gaaatcccag agccgactg aattaaagaa  
4740  
cctcacagt ccttgagaac tgagctgttt ccgaggtttc tcaggctctg ctagccgccc  
4800  
atcggggtaa gcatggcgat aaagacattt gcttccaaat gggcaggtcc ccttgccttg  
4860  
ctcaaagtat ttacaggctt ttttccccat cccctgtttg aaagcttcaa tcaactogtt  
4920  
ctttttattc tgatcttcca cccaatacac acttgggaatt acaaactctg atatcacacg  
4980  
gcattctgga caagacttaa tgattgggtt ttcaaactgt ttggcacacc gccactgccg  
5040  
gatgcaggac aaacagtacg tgtgattgca attggagaga atcccaaate tcctctcaga  
5100  
agcagaggcc ttctccagga tcaacttccat gcagatactg cacactttgt cctggcttgc  
5160  
ctggaaggca aaggcctttt ccatctctgtg ttcgaacgtc aacatgcaga tcttttcatg  
5220  
agccttcctc tgctctgggt cgaatgggtg caagacttgc agcctacaga tttcacacac  
5280  
ctccccgtgc aggtagacac aggcattcccc aaaccggcac tccccagcag ctgcgtaggg  
5340  
gcacagctgc tgctcgttgc tgtaggagct gctggcctcc acgtcatcaa ggccactcct  
5400

```
<210> 4930
<211> 648
<212> PRT
<213> Homo sapiens
```

4104

```

225          230          235          240
Asn Thr Ser Ser Pro Ser Ser Glu Gly Ser Leu Ser Gln Arg Gln Arg
          245          250          255
Ser Thr Ser Thr Pro Asn Val His Met Val Ser Thr Thr Leu Pro Val
          260          265          270
Asp Ser Arg Met Ile Glu Asp Ala Ile Arg Ser His Ser Glu Ser Ala
          275          280          285
Ser Pro Ser Ala Leu Ser Ser Ser Pro Asn Asn Leu Ser Pro Thr Gly
          290          295          300
Trp Ser Gln Pro Lys Thr Pro Val Pro Ala Gln Arg Glu Arg Ala Pro
305          310          315          320
Val Ser Gly Thr Gln Glu Lys Asn Lys Ile Arg Pro Arg Gly Gln Arg
          325          330          335
Asp Ser Ser Tyr Tyr Trp Glu Ile Glu Ala Ser Glu Val Met Leu Ser
          340          345          350
Thr Arg Ile Gly Ser Gly Ser Phe Gly Thr Val Tyr Lys Gly Lys Trp
          355          360          365
His Gly Asp Val Ala Val Lys Ile Leu Lys Val Val Asp Pro Thr Pro
          370          375          380
Glu Gln Phe Gln Ala Phe Arg Asn Glu Val Ala Val Leu Arg Lys Thr
385          390          395          400
Arg His Val Asn Ile Leu Leu Phe Met Gly Tyr Met Thr Lys Asp Asn
          405          410          415
Leu Ala Ile Val Thr Gln Trp Cys Glu Gly Ser Ser Leu Tyr Lys His
          420          425          430
Leu His Val Gln Glu Thr Lys Phe Gln Met Phe Gln Leu Ile Asp Ile
          435          440          445
Ala Arg Gln Thr Ala Gln Gly Met Asp Tyr Leu His Ala Lys Asn Ile
          450          455          460
Ile His Arg Asp Met Lys Ser Asn Asn Ile Phe Leu His Glu Gly Leu
465          470          475          480
Thr Val Lys Ile Gly Asp Phe Gly Leu Ala Thr Val Lys Ser Arg Trp
          485          490          495
Ser Gly Ser Gln Gln Val Glu Gln Pro Thr Gly Ser Val Leu Trp Met
          500          505          510
Ala Pro Glu Val Ile Arg Met Gln Asp Asn Asn Pro Phe Ser Phe Gln
          515          520          525
Ser Asp Val Tyr Ser Tyr Gly Ile Val Leu Tyr Glu Leu Met Thr Gly
          530          535          540
Glu Leu Pro Tyr Ser His Ile Asn Asn Arg Asp Gln Ile Ile Phe Met
545          550          555          560
Val Gly Arg Gly Tyr Ala Ser Pro Asp Leu Ser Lys Leu Tyr Lys Asn
          565          570          575
Cys Pro Lys Ala Met Lys Arg Leu Val Ala Asp Cys Val Lys Lys Val
          580          585          590
Lys Glu Glu Arg Pro Leu Phe Pro Gln Ile Leu Ser Ser Ile Glu Leu
          595          600          605
Leu Gln His Ser Leu Pro Lys Ile Asn Arg Ser Ala Ser Glu Pro Ser
          610          615          620
Leu His Arg Ala Ala His Thr Glu Asp Ile Asn Ala Cys Thr Leu Thr
625          630          635          640
Thr Ser Pro Arg Leu Pro Val Phe
          645

```

<210> 4931  
 <211> 261  
 <212> DNA  
 <213> Homo sapiens

<400> 4931  
 atcatcctgg gcttggcctt tggcnacctg gagagtaagt ccagcatcaa gcgggtgctg  
 60  
 gccatcacca cagtgtgtgc cccggcccta tccgtcaccc aggggaccgc gaagatcctg  
 120  
 taccgtatg cccatctctc agctgaggac tttaatatct atggccatgg gggccgccag  
 180  
 ttctggctgg tcagctcctg cttcttcttc ctgctcggag gagcttctac gtgtatgcgg  
 240  
 gcatcctggc accgctcaac n  
 261

<210> 4932  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 4932  
 Ile Ile Leu Gly Leu Ala Phe Gly Xaa Leu Glu Ser Lys Ser Ser Ile  
 1 5 10 15  
 Lys Arg Val Leu Ala Ile Thr Thr Val Leu Ser Pro Ala Leu Ser Val  
 20 25 30  
 Thr Gln Gly Thr Arg Lys Ile Leu Tyr Pro Tyr Ala His Leu Ser Ala  
 35 40 45  
 Glu Asp Phe Asn Ile Tyr Gly His Gly Gly Arg Gln Phe Trp Leu Val  
 50 55 60  
 Ser Ser Cys Phe Phe Phe Leu Leu Gly Gly Ala Ser Thr Cys Met Arg  
 65 70 75 80  
 Ala Ser Trp His Arg Ser Thr  
 85

<210> 4933  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 4933  
 ntgacgaggc cgctcgtggt tttctcttct gccctcactc agccgcgagg gccagccgc  
 60  
 ctttgtcctc ctggtggcca cggatatttt agcacgctcc gttctgaggg aggacgggct  
 120  
 ccaagggctg ggcattggcg caccgctggt tcacctctc tcgtcttctc ccacaggtgt  
 180  
 gcttcccgc cagctgcagc catggggctc gaggaccacg gcgcccagaa cccagctgt  
 240  
 aaaatcatga cgtttcgccc aaccatggaa gaatttaaag acttcaacaa atacgtggcc  
 300  
 tacatagagt cgcagggagc ccaccgggag ggcctggcca agatcatccc cccgaaggag  
 360

tggaagccgc ggcagacgta tgatgacatc gacgacgtgg tgatcccggc gcccatccag  
 420  
 caggtggtga cgggccagtc gggcctcttc acgcagtaca atatccagaa gaaggccatg  
 480  
 acagtgggcg agtaccgccg cctggccaac agcgagaagt actgtacccc gcggcaccag  
 540  
 gactttgacg accttgaacg caaatactgg aagaacctca cctttgtctc cccgatctac  
 600  
 ggggctgaca tcagcggctc tttgtatgat gacgtaagta tgaggctccg gggaagaaca  
 660  
 gggaccagct tcctggtggg tgggtggtggg agggccctga acgggactct gccttggcag  
 720  
 atgaagcttc caggcaggca aggttaaccc cctcgcccag gctctggatg cgggcctcgc  
 780  
 cctgtggtga cgaaagagga agccaggctt tctctgattt ttgcagggcc cctcctgect  
 840  
 caccctgcag cccccaccct gagctcacc cggccccacc tctggcctca gcagccggcc  
 900  
 cacagcgtgt taaaaacacg tgtactttcc cagtcctcgc cgctcgtctt cctggcactg  
 960  
 tggagcctcg agtcc  
 975

&lt;210&gt; 4934

&lt;211&gt; 181

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4934

Met	Gly	Ser	Glu	Asp	His	Gly	Ala	Gln	Asn	Pro	Ser	Cys	Lys	Ile	Met
1				5					10					15	
Thr	Phe	Arg	Pro	Thr	Met	Glu	Glu	Phe	Lys	Asp	Phe	Asn	Lys	Tyr	Val
			20					25					30		
Ala	Tyr	Ile	Glu	Ser	Gln	Gly	Ala	His	Arg	Ala	Gly	Leu	Ala	Lys	Ile
		35				40						45			
Ile	Pro	Pro	Lys	Glu	Trp	Lys	Pro	Arg	Gln	Thr	Tyr	Asp	Asp	Ile	Asp
	50					55					60				
Asp	Val	Val	Ile	Pro	Ala	Pro	Ile	Gln	Gln	Val	Val	Thr	Gly	Gln	Ser
65					70					75				80	
Gly	Leu	Phe	Thr	Gln	Tyr	Asn	Ile	Gln	Lys	Lys	Ala	Met	Thr	Val	Gly
			85						90					95	
Glu	Tyr	Arg	Arg	Leu	Ala	Asn	Ser	Glu	Lys	Tyr	Cys	Thr	Pro	Arg	His
			100					105					110		
Gln	Asp	Phe	Asp	Asp	Leu	Glu	Arg	Lys	Tyr	Trp	Lys	Asn	Leu	Thr	Phe
	115					120						125			
Val	Ser	Pro	Ile	Tyr	Gly	Ala	Asp	Ile	Ser	Gly	Ser	Leu	Tyr	Asp	Asp
	130					135					140				
Val	Ser	Met	Arg	Leu	Arg	Gly	Arg	Thr	Gly	Thr	Ser	Phe	Leu	Val	Gly
145					150					155				160	
Gly	Gly	Gly	Arg	Ala	Leu	Asn	Gly	Thr	Leu	Pro	Trp	Gln	Met	Lys	Leu
			165					170						175	
Pro	Gly	Arg	Gln	Gly											
			180												

<210> 4935  
<211> 1668  
<212> DNA  
<213> Homo sapiens

<400> 4935  
ggcaagttct tagcgtgcgt gagccaggac gggtttctgc ggggtgttcaa ctttgactca  
60  
gtggagctgc acggtacgat gaaaagctac tttgggggct tgctgtgtgt gtgctggagc  
120  
ccggatggca agtacatcgt gacaggtggg gaggacgact tggtgacagt ctggtccttt  
180  
gtagactgcc gagtaatagc cagaggccac gggcacaagt cctgggtcag tgttgtagcg  
240  
tttgaccctt ataccactag tgtagaagaa ggtgacccta tggagttag tggcagcgat  
300  
gaggacttcc aagaccttct tcattttggc gagatcgagc aaatagtaca cagtccaggc  
360  
tctccaaacg gaactctaca gacagccgcc ccgagtgtca cgtatcgggt tggttccgtg  
420  
ggccaggaca cacagctctg tttatgggac cttacagaag atatcctttt ccctcaccaa  
480  
cccctctcaa gagcaaggac acacacaaat gtcattgaatg ccacgagtcc tcctgctgga  
540  
agcaatggga acagtgttac aacacccggg aactctgtgc cgcctcctct gccacggtcc  
600  
aacagccttc cacattcagc agtctcaaat gctggcagca aaagcagtgt catggacggg  
660  
gccattgctt ctgggggtcag caaatttgca acactttcac tacatgaccg gaaggagagg  
720  
caccacgaga aagatcacia gcgaaatcat agcatgggac acattttctag caagagcagt  
780  
gacaaactga atctagttac caaaaccaa acggaccctg ctaaaactct gggaacgccc  
840  
ctgtgtcttc gaatggaaga tgttcccttg ttagagccgc tgatatgtaa aaagatagca  
900  
catgagagac tgactgtact aatatttctt gaagactgta tagtcaactgc ttgtcaggag  
960  
ggatttattt gcacatgggg aaggcctggt aaagtggtaa gttttaatcc ttaatgctgc  
1020  
accagatcta gaacttgaat aggtagtac ttttttcttt ttcgtgggag ggggtggggtg  
1080  
tacaatgaat gtgaatgaca cttcttattc ttaatgtaaa tctcaatgca tcagagccat  
1140  
aattttggat actgcatgcc atgtaattct gaatcatttg ataatttacc ttagagcatt  
1200  
taaaaaaata taatcaaact aattgccagc caagtcagtc atcctcctgg gagtatatag  
1260  
agtcccaagg ttagcgctcc tgtattagac tatttcaatt ttaggaaaat catgaccatg  
1320  
tggggaaaca atgacttta aatgctgaaa ttaaaattta tgctttaact ggaatatattt  
1380  
ttgcttaact actcaattag aatattgtac acctgatcaa tgtgtgttca gcacagatgg  
1440



ccatgaattg tcatttatag tccaattttt tatcttaatc ataaaatggt taggaatcta  
 1500  
 tgaaatttaa ctttaggaac aaaacgttta gcagggttga ttgatattat ttttacattg  
 1560  
 ttctggcaat ccacagaaag agaagagcct taatttttaa aaccattttt agtcatttta  
 1620  
 tgacaattaa agttgtttta taaacatctt ttttcaaaga aaaaaaaaa  
 1668

<210> 4936

<211> 337

<212> PRT

<213> Homo sapiens

<400> 4936

Gly	Lys	Phe	Leu	Ala	Cys	Val	Ser	Gln	Asp	Gly	Phe	Leu	Arg	Val	Phe
1				5					10					15	
Asn	Phe	Asp	Ser	Val	Glu	Leu	His	Gly	Thr	Met	Lys	Ser	Tyr	Phe	Gly
			20					25					30		
Gly	Leu	Leu	Cys	Val	Cys	Trp	Ser	Pro	Asp	Gly	Lys	Tyr	Ile	Val	Thr
			35				40					45			
Gly	Gly	Glu	Asp	Asp	Leu	Val	Thr	Val	Trp	Ser	Phe	Val	Asp	Cys	Arg
		50				55					60				
Val	Ile	Ala	Arg	Gly	His	Gly	His	Lys	Ser	Trp	Val	Ser	Val	Val	Ala
65					70					75					80
Phe	Asp	Pro	Tyr	Thr	Ser	Val	Glu	Glu	Gly	Asp	Pro	Met	Glu	Phe	
				85				90					95		
Ser	Gly	Ser	Asp	Glu	Asp	Phe	Gln	Asp	Leu	Leu	His	Phe	Gly	Glu	Ile
			100					105					110		
Glu	Gln	Ile	Val	His	Ser	Pro	Gly	Ser	Pro	Asn	Gly	Thr	Leu	Gln	Thr
		115					120					125			
Ala	Ala	Pro	Ser	Val	Thr	Tyr	Arg	Phe	Gly	Ser	Val	Gly	Gln	Asp	Thr
		130					135					140			
Gln	Leu	Cys	Leu	Trp	Asp	Leu	Thr	Glu	Asp	Ile	Leu	Phe	Pro	His	Gln
145					150					155					160
Pro	Leu	Ser	Arg	Ala	Arg	Thr	His	Thr	Asn	Val	Met	Asn	Ala	Thr	Ser
				165					170					175	
Pro	Pro	Ala	Gly	Ser	Asn	Gly	Asn	Ser	Val	Thr	Thr	Pro	Gly	Asn	Ser
			180					185					190		
Val	Pro	Pro	Pro	Leu	Pro	Arg	Ser	Asn	Ser	Leu	Pro	His	Ser	Ala	Val
		195					200					205			
Ser	Asn	Ala	Gly	Ser	Lys	Ser	Ser	Val	Met	Asp	Gly	Ala	Ile	Ala	Ser
		210				215					220				
Gly	Val	Ser	Lys	Phe	Ala	Thr	Leu	Ser	Leu	His	Asp	Arg	Lys	Glu	Arg
225					230					235					240
His	His	Glu	Lys	Asp	His	Lys	Arg	Asn	His	Ser	Met	Gly	His	Ile	Ser
			245						250					255	
Ser	Lys	Ser	Ser	Asp	Lys	Leu	Asn	Leu	Val	Thr	Lys	Thr	Lys	Thr	Asp
			260					265					270		
Pro	Ala	Lys	Thr	Leu	Gly	Thr	Pro	Leu	Cys	Pro	Arg	Met	Glu	Asp	Val
			275				280					285			
Pro	Leu	Leu	Glu	Pro	Leu	Ile	Cys	Lys	Lys	Ile	Ala	His	Glu	Arg	Leu
		290				295					300				
Thr	Val	Leu	Ile	Phe	Leu	Glu	Asp	Cys	Ile	Val	Thr	Ala	Cys	Gln	Glu



85                      90                      95  
 Trp Ala Leu Tyr Lys Gln Arg Glu Ala Pro Glu Leu Val  
                     100                      105

<210> 4939  
 <211> 730  
 <212> DNA  
 <213> Homo sapiens

<400> 4939  
 nnacgcgtcc acttttctag aagcccccca gcctccacca tggctcccat cccctctgcc  
 60  
 ctgcgtgtct gggagcccg cggatccagc ccacagctgt cctctgcgcc tgcagattcc  
 120  
 tcggcctcta cccgccctcc ccaaggctct cctccctgg actcaaaagc ctctacttgg  
 180  
 ctgcctctgc cagtcacctc ttcctctgct gagccctcca gaccaaattc ttgccacct  
 240  
 gcattgcttc ctgctgtgc ctcttccttt tctttcgagt ccagccttg cccaagcgcc  
 300  
 ccttccaaag cttcaccagc gccagcagcg ctgatgtgtg ggaccacatc acccccata  
 360  
 atcccagcag ccacagagcc agtctgtgca tctcacggt ccgggaggcc cacagccacc  
 420  
 gcttgagcc tccagcctct tctggatgtt ctgtcagcct ccgcctctc atctcagtt  
 480  
 tctctggcat aggcctctcc cagtgcggg caaggccctg cgtctgccc tgtgcttcg  
 540  
 tccagctcct ggttctctga gacagatgcc tctccctcct cagttccaca tcccgcgtcc  
 600  
 tgggttgta gcccctcccc gctgctctt gggacttctg atagttcaga ctctcggtct  
 660  
 ccttcagcct cagccgccag ggctggcct ccgcagctc cctcctctc ccgctgctcg  
 720  
 ccatcggccg  
 730

<210> 4940  
 <211> 158  
 <212> PRT  
 <213> Homo sapiens

<400> 4940  
 Ser Arg Ser Pro Pro Ala Ser Thr Met Ala Pro Ile Pro Ser Ala Leu  
 1                      5                      10                      15  
 Ala Val Trp Glu Pro Ala Gly Ser Ser Pro Gln Leu Ser Ser Ala Pro  
                     20                      25                      30  
 Ala Asp Ser Ser Ala Ser Thr Arg Pro Pro Gln Gly Pro Pro Ser Leu  
                     35                      40                      45  
 Asp Ser Lys Ala Ser Thr Trp Leu Pro Leu Pro Val Thr Ser Ser Ser  
                     50                      55                      60  
 Ala Glu Pro Ser Arg Pro Asn Ser Cys Pro Pro Ala Cys Ser Pro Ala  
 65                      70                      75                      80  
 Ala Ala Ser Ser Phe Ser Phe Glu Ser Gln Pro Cys Pro Ser Ala Pro

				85					90					95					
Ser	Lys	Ala	Ser	Pro	Ala	Pro	Ala	Ala	Leu	Met	Cys	Gly	Thr	Thr	Ser				
			100					105					110						
Pro	Pro	Ile	Ile	Pro	Ala	Ala	Thr	Glu	Pro	Val	Cys	Ala	Ser	Ser	Arg				
		115					120					125							
Ser	Gly	Arg	Pro	Thr	Ala	Thr	Ala	Cys	Ser	Leu	Gln	Pro	Leu	Leu	Asp				
	130					135					140								
Val	Leu	Ser	Ala	Ser	Ala	Ser	Ser	Ser	Ser	Val	Ser	Leu	Ala						
145					150					155									

&lt;210&gt; 4941

&lt;211&gt; 1718

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4941

```

ntcatgaccg aggttgtggt ggcctgctc atgtgcccc tccactgaa cagcaatgga
60
gcagagatgt ggaggcagct gatactgtgt aagcccagct gtgatgtccg agacctcctg
120
gatctgctcc tgggcagcct gaaggagaag cccgtcacca aggagggccg ggcttccatc
180
gtgcccctgg cggcagccag cggcctgtgc gagctcctgt ccgtcaacag ctgcatgggc
240
cgtgtgaggg gcactctacc tcagctgctc ctggccctgc tcattcaggt ccattaccac
300
atcggcctca acctgcctgg ctgcgtggct cctcccaagg acaccaagaa ggggtgcacag
360
ccctctccct tcgtacctgt gcgctgggtg gtgaaagtgg tgaaccct gctactgagg
420
atgggctgct cttatgagac cacgtttctg gaggaccagg gtggctggga gctcatggag
480
caggtggaga gccaccaccg cggagtggcc ttgctggcaa gggccatggt gcagtactcc
540
tgccaggagc tgtgccgcat cctctacctg ctcatcccg ccttgagagc aggcgacgag
600
aagcacagga tcacggccac cgccttcttc gtggagctcc tccagatgga gcaggtgcgc
660
cggatccccg aggaatactc tctggggcgg atggcagaag gcctgagcca ccacgacccc
720
atcatgaagg tgctgtccat tcgaggcctg gtcactctgg cccgcaggtc tgagaagacc
780
gccaaggtga aggccctcct gccttccatg gtgaagggcc tgaagaacat ggatgggatg
840
ctggtggtgg aagcgggtcca caacctcaag gctgtcttca aggggcgga ccagaagctg
900
atggacagtg cggcttatgt ggagatgctg cagatcctgc tgccgcactt cagcgacgca
960
cgagaggtcg tgcgctctc ctgcatcaac ctgtatggga aggtgggtcca gaagcttcgg
1020
gcaccacgca ctcaggccat ggaggagcag ctggtcagca ccttggtgcc cctactgctg
1080
accatgcagg agggcaactc caaggtaagc cagaagtgtg tgaagaccct gttacgctgt
1140

```

tcttacttca tggcttggga gttgccaaaa agagcttata gccggaagcc ctgggacaac  
 1200  
 caacagcaga cagtggccaa aatttgcaag tgccttgtga acaccaccg agacagcgcc  
 1260  
 ttcattattcc tcagccagag cctggagtat gccagaact cacgggcctc cctccggaag  
 1320  
 tgctcagtca tggtcatagg gtccctgggc ccctgcatgg agagcataat gacagaagat  
 1380  
 cgtctgaatg aagtgaagc tgctctggat aacttgagac atgaccaga agcatcagtg  
 1440  
 tgcattacg cagcccaggt ccaggaccac atcctggcca gctgctggca gaactcctgg  
 1500  
 ctgccgcacg ggaactcatg ggtgtgttac tcagccacca cccaccgctg gagccccagc  
 1560  
 tgtgagaacc tgcccacttc ccaccagcgg cgctcctgga tcatgcaggc actgggctcc  
 1620  
 tggaagatgt ccttgaagaa gtgacgtccc tgagccccaa accctcctca ggggtggtga  
 1680  
 gttccagcca tgctccctat aaatgtcatg tggcttaa  
 1718

<210> 4942

<211> 469

<212> PRT

<213> Homo sapiens

<400> 4942

Met	Gly	Arg	Val	Arg	Arg	Ile	Tyr	Pro	Gln	Leu	Leu	Leu	Ala	Leu	Leu	1	5	10	15
Ile	Gln	Val	His	Tyr	His	Ile	Gly	Leu	Asn	Leu	Pro	Gly	Cys	Val	Ala	20	25	30	
Pro	Pro	Lys	Asp	Thr	Lys	Lys	Gly	Ala	Gln	Pro	Ser	Pro	Phe	Val	Pro	35	40	45	
Val	Arg	Trp	Val	Val	Lys	Val	Val	Lys	Thr	Leu	Leu	Leu	Arg	Met	Gly	50	55	60	
Cys	Ser	Tyr	Glu	Thr	Thr	Phe	Leu	Glu	Asp	Gln	Gly	Gly	Trp	Glu	Leu	65	70	75	80
Met	Glu	Gln	Val	Glu	Ser	His	His	Arg	Gly	Val	Ala	Leu	Leu	Ala	Arg	85	90	95	
Ala	Met	Val	Gln	Tyr	Ser	Cys	Gln	Glu	Cys	Arg	Ile	Leu	Tyr	Leu		100	105	110	
Leu	Ile	Pro	Leu	Leu	Glu	Arg	Gly	Asp	Glu	Lys	His	Arg	Ile	Thr	Ala	115	120	125	
Thr	Ala	Phe	Phe	Val	Glu	Leu	Leu	Gln	Met	Glu	Gln	Val	Arg	Arg	Ile	130	135	140	
Pro	Glu	Glu	Tyr	Ser	Leu	Gly	Arg	Met	Ala	Glu	Gly	Leu	Ser	His	His	145	150	155	160
Asp	Pro	Ile	Met	Lys	Val	Leu	Ser	Ile	Arg	Gly	Leu	Val	Ile	Leu	Ala	165	170	175	
Arg	Arg	Ser	Glu	Lys	Thr	Ala	Lys	Val	Lys	Ala	Leu	Leu	Pro	Ser	Met	180	185	190	
Val	Lys	Gly	Leu	Lys	Asn	Met	Asp	Gly	Met	Leu	Val	Val	Glu	Ala	Val	195	200	205	
His	Asn	Leu	Lys	Ala	Val	Phe	Lys	Gly	Arg	Asp	Gln	Lys	Leu	Met	Asp				

210 215 220  
 Ser Ala Val Tyr Val Glu Met Leu Gln Ile Leu Leu Pro His Phe Ser  
 225 230 235 240  
 Asp Ala Arg Glu Val Val Arg Ser Ser Cys Ile Asn Leu Tyr Gly Lys  
 245 250 255  
 Val Val Gln Lys Leu Arg Ala Pro Arg Thr Gln Ala Met Glu Glu Gln  
 260 265 270  
 Leu Val Ser Thr Leu Val Pro Leu Leu Leu Thr Met Gln Glu Gly Asn  
 275 280 285  
 Ser Lys Val Ser Gln Lys Cys Val Lys Thr Leu Leu Arg Cys Ser Tyr  
 290 295 300  
 Phe Met Ala Trp Glu Leu Pro Lys Arg Ala Tyr Ser Arg Lys Pro Trp  
 305 310 315 320  
 Asp Asn Gln Gln Gln Thr Val Ala Lys Ile Cys Lys Cys Leu Val Asn  
 325 330 335  
 Thr His Arg Asp Ser Ala Phe Ile Phe Leu Ser Gln Ser Leu Glu Tyr  
 340 345 350  
 Ala Lys Asn Ser Arg Ala Ser Leu Arg Lys Cys Ser Val Met Phe Ile  
 355 360 365  
 Gly Ser Leu Val Pro Cys Met Glu Ser Ile Met Thr Glu Asp Arg Leu  
 370 375 380  
 Asn Glu Val Lys Ala Ala Leu Asp Asn Leu Arg His Asp Pro Glu Ala  
 385 390 395 400  
 Ser Val Cys Ile Tyr Ala Ala Gln Val Gln Asp His Ile Leu Ala Ser  
 405 410 415  
 Cys Trp Gln Asn Ser Trp Leu Pro His Gly Asn Ser Trp Val Cys Tyr  
 420 425 430  
 Ser Ala Thr Thr His Arg Trp Ser Pro Ser Cys Glu Asn Leu Pro Thr  
 435 440 445  
 Ser His Gln Arg Arg Ser Trp Ile Met Gln Ala Leu Gly Ser Trp Lys  
 450 455 460  
 Met Ser Leu Lys Lys  
 465

&lt;210&gt; 4943

&lt;211&gt; 1020

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4943

nnacgcgtgg gtgaggaagg gcaggtctag gtaaggctgt cgggtgacttt gggggctctgc  
 60  
 agcaaggggc gatggctgcg aagtctacgg ggggtctccaa ccttgtagag tcgccaggaa  
 120  
 tagggcgaat ccacttcatt agtgaccagc tcggggcggtt cacgtgcatt acacaaataa  
 180  
 cttggccttt ttctgcctca gttgggggat ttcttaaagc tagaatccc gcgtttccgc  
 240  
 tgccgtaatt tcctctcagg cgcaattact ctcttcata ttgggtaaca gtagaaggct  
 300  
 cagtttctct gctcatcaca cggccttcgg cactgtagct ttgggtggtg ggctgcagat  
 360  
 taattttgta accaccttaa gaaaaatacg gaactctaac tccttgccac tcaagaaatg  
 420

tcctcccttt cagaatatgc cttccgcatg tctcgtctca gtgcccggct atttggtgaa  
 480  
 gtcaccaggc ctactaattc caagtctatg aaagtgggtga aactgttttag tgaactgccc  
 540  
 ttggccaaga agaaggagac ttatgattgg tatccaaatc accacactta cgctgaactc  
 600  
 atgcagacgc tccgatttct tggactctac agagatgagc atcaggattt tatggatgag  
 660  
 caaaaacgac taaagaagct tcgtggaaag gagaaaccaa agaaaggaga agggaaaaga  
 720  
 gcagcaaaaa ggaaatagtg ttggtccctc aagagggaga ctttcttctc cagtggcgga  
 780  
 gagaagaaag tgcatttatt gtctttccac atattggagg aatgtcatct tcctaaatga  
 840  
 agtttatttg gaggaacaca gtcattctctc tggtgaaatc taatccggtt acattgtggc  
 900  
 tggtttcttg aacacattct aactgtgcaa aattatcttg gccttggccg tgtaatgtga  
 960  
 ggtttacctg attctctaata gaaataaata cctaagttat aaaaaaaaaa aaaaaaaaaa  
 1020

<210> 4944

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4944

Met	Ser	Ser	Leu	Ser	Glu	Tyr	Ala	Phe	Arg	Met	Ser	Arg	Leu	Ser	Ala
1				5					10					15	
Arg	Leu	Phe	Gly	Glu	Val	Thr	Arg	Pro	Thr	Asn	Ser	Lys	Ser	Met	Lys
			20					25					30		
Val	Val	Lys	Leu	Phe	Ser	Glu	Leu	Pro	Leu	Ala	Lys	Lys	Lys	Glu	Thr
		35					40					45			
Tyr	Asp	Trp	Tyr	Pro	Asn	His	His	Thr	Tyr	Ala	Glu	Leu	Met	Gln	Thr
	50				55						60				
Leu	Arg	Phe	Leu	Gly	Leu	Tyr	Arg	Asp	Glu	His	Gln	Asp	Phe	Met	Asp
65					70				75					80	
Glu	Gln	Lys	Arg	Leu	Lys	Lys	Leu	Arg	Gly	Lys	Glu	Lys	Pro	Lys	Lys
			85					90					95		
Gly	Glu	Gly	Lys	Arg	Ala	Ala	Lys	Arg	Lys						
			100					105							

<210> 4945

<211> 1792

<212> DNA

<213> Homo sapiens

<400> 4945

actagtaaca atgccccacc tctaaatcta gaggacaagc tacagagggg tttgaagggg  
 60  
 aagcaggaat tctggcaaca gtgtgtctca ttcattcttc caggccagga gtaccgcatg  
 120  
 tacaacacat atgatgtcca cttttatgct tcctttgccc tcatcatgct ctggcccaaa  
 180

cttgagctca gcctacagta tgacatggct ctggccactc tcagggagga cctgacacgg  
240  
cgacgggtacc tgatgagtgg ggtgatggca cctgtgaaaa ggaggaacgt catccccat  
300  
gatattgggg acccagatga tgaaccatgg ctccgcgtca atgcatatatt aatccatgat  
360  
actgctgatt ggaaggacct gaacctgaag tttgtgctgc aggtttatcg ggactattac  
420  
ctcacgggtg atcaaaactt cctgaaggac atgtggcctg tgtgtctagt aagggatgca  
480  
catgcagtgg ccagtgtgcc aggggtatgg ttggtgtctg ggaagagcct agctggttgt  
540  
tgcccttcct cggtagctag gtcttcaaca tcttggtccc tctctaggct gtgatggaat  
600  
ctgaaatgaa gtttgacaag gaccatgatg gactcattga aaatggaggc tatgcagacc  
660  
agacctatga tggatgggtg accacaggcc ccagggttagc gggtaggggt ttccaggagg  
720  
cctgaggtga gaaactgggc aacaagggat tgtagggctc aagaaagaat gactcattgt  
780  
ctattacacg gcatgggagc agctggagct gccagtctga ccccaaacc catgtccctg  
840  
atcagtgcct actgtggagg gctgtggctg gcagctgtgg ctgtgatggc ccagatggct  
900  
gctctgtgtg gggcacagga catccaggat aagttttctt ctatcctcag ccggggccaa  
960  
gaagcctatg agagactgct gtggaatggg gagttcgggg agcctaagta gtcttaaggc  
1020  
agctgagagg acaccaggag ccttattttt ctcttcctcg actccaggcc gctattacaa  
1080  
ctatgacagc agctctcggc ctcaagtctg tagtgttatg tetgaccagt gtgctggaca  
1140  
gtggttcctg aaggcctgtg gcctaggaga aggagacact gaggtgtttc ctaccaacaa  
1200  
tgtgtccgt gctctccaaa ctatctttga gctgaacgct caggcctttg caggaggggc  
1260  
catgggggct gtgaatggga tgcagcccca tgggtgtccct gataaatcca gtgtgcagtc  
1320  
tgatgaagtc tgggtgggtg tggctacgg gctggcagct accatgatcc aagaggtaat  
1380  
gcactccttt tcccatctct ccaccatctg tatcctggcc cagaaaactt cctcaaccac  
1440  
caaatttctt caaggcataa cccaatgcca tcttgtccgt ctataaagcc tccattttt  
1500  
ccctggatat cattccagct cctgccttca ggcttctgtc tgtgggtcat agttatctcc  
1560  
tccacttgct gggagctcct tgaaggcaaa gactctactg cctccatcta tccagtggaa  
1620  
gtggctcttc agaggggtgcc aagttagtat gtatgactgt catctctccc aacagggcct  
1680  
gactggggag ggcttccaga cagctgaagg ctgctaccgt accgtgtggg agcgctggg  
1740  
tctggccttc cagaccccag aggcatactg ccagcagcga gtgttccgcg cg  
1792



<210> 4946  
 <211> 197  
 <212> PRT  
 <213> Homo sapiens

<400> 4946  
 Thr Ser Asn Asn Ala Pro Pro Leu Asn Leu Glu Asp Lys Leu Gln Arg  
 1 5 10 15  
 Gly Leu Lys Gly Lys Gln Glu Phe Trp Gln Gln Cys Val Ser Phe Ile  
 20 25 30  
 Pro Pro Gly Gln Glu Tyr Arg Met Tyr Asn Thr Tyr Asp Val His Phe  
 35 40 45  
 Tyr Ala Ser Phe Ala Leu Ile Met Leu Trp Pro Lys Leu Glu Leu Ser  
 50 55 60  
 Leu Gln Tyr Asp Met Ala Leu Ala Thr Leu Arg Glu Asp Leu Thr Arg  
 65 70 75 80  
 Arg Arg Tyr Leu Met Ser Gly Val Met Ala Pro Val Lys Arg Arg Asn  
 85 90 95  
 Val Ile Pro His Asp Ile Gly Asp Pro Asp Asp Glu Pro Trp Leu Arg  
 100 105 110  
 Val Asn Ala Tyr Leu Ile His Asp Thr Ala Asp Trp Lys Asp Leu Asn  
 115 120 125  
 Leu Lys Phe Val Leu Gln Val Tyr Arg Asp Tyr Tyr Leu Thr Gly Asp  
 130 135 140  
 Gln Asn Phe Leu Lys Asp Met Trp Pro Val Cys Leu Val Arg Asp Ala  
 145 150 155 160  
 His Ala Val Ala Ser Val Pro Gly Val Trp Leu Val Ser Gly Lys Ser  
 165 170 175  
 Leu Ala Gly Cys Cys Leu Ser Ser Val Pro Arg Ser Ser Thr Ser Trp  
 180 185 190  
 Ser Leu Ser Arg Leu  
 195

<210> 4947  
 <211> 2060  
 <212> DNA  
 <213> Homo sapiens

<400> 4947  
 nagtactgga tcccatcctg ggtgggggttc tcctagtggc ctgagtgtgc caccaggtct  
 60  
 gcagggagga ggaatccatg caggagggtta gaagagtcag aagattttat tggctgtctt  
 120  
 cacttgaata acagccctgt ggcatttttag atctcgagca ctgggatttg tcaattgtca  
 180  
 atgtgatgct tggggactgg catattcggt gcaaggggtt tttcacctt ttctgaagct  
 240  
 tcctttttcc tctgttttaa agcatatcac agtatgggcc attctctgag tgaagaaagt  
 300  
 acagagtga agtacacccg aagtgaagg gactcagaca tcttgtgtcc tttgctcagc  
 360  
 tggaagacta ctaagcacgt agtttcagtc attcagttga tagacatttg aacacttatg  
 420

gtggtgcta accccaggcc gagtgtgact cattccacct tgcagttaaa gcagtgggaag  
480  
tgcacgtatg aggccctcaa ctgccttctt gattcagcat agtggtttct tctgggctgc  
540  
ttcactaaga gaaaacctta cagccaatcc aggacctctc tgatcacctc cccagtggat  
600  
gtagcattgg taaagtggaa ggaccttgtt ctgtttgtca gtaggagctg atgtgtgtga  
660  
acggactcct atctctgctt cttcctttgt gtgacagact ggggtatctt tgcccatcct  
720  
tgcttagacc agtctagacc ctctggccct ctgcattccc agttccaaat gctagggatg  
780  
gagaatgtgc ttgggcttgc ataagacggg gctatgcccc tggctctcct cagctgtagt  
840  
cagcattgct agctgcccac aactcacgcc agtgggtgaa gatgctggtc tcagagaacc  
900  
agagcttggc agggccctc atacacctt tggagaggta gatgctggtc aactatgcac  
960  
cattacctgt gagcagagct tactcctctg ccattctctc tccagggcct cagcatcctc  
1020  
atgtccctc acaacatccc gtccagcctg agcctgctca ccagcatggg ggatgacatg  
1080  
tggcattacg ctggggacca gtccactgat tttaactggg acaccgccc agccatgctg  
1140  
gctgccatct acaacacaac agagctgggt atgatgcagg actcctctcc agactttgag  
1200  
gacacttggc gcttcctgga aaaccgggtt aatgatgcaa tgaacatggg ccacactgcc  
1260  
aagcaggtaa agtccacagg agaggcactg gtgcaaggac tcatgggtgc agcagtgcg  
1320  
ctcaagaact tgacangtct aaaccagcgt cggtgagagg aaggggtata agctacaatg  
1380  
cctagaagag aatgagcgga cagattgaaa gagctttgaa aagtataagg tgccatccac  
1440  
ataacctggg gttcacgaga acacactaaa ggactcctga gtcactacca cagccacctg  
1500  
gaaaccacaa ggcatttgat gctaccgttc tggtcaggga ttgggctgct tcttcagttc  
1560  
ctaataccag accaagcctc ctgatgcctt tctgcactgc aactgtgtga ttgaaaaatg  
1620  
agatgttcat ccaagcagtc aagccacaga aaccagcat gtccctgtca caatctcatg  
1680  
ggcaccttga tcatgtctta accttccctt aaccttgggg ctcccaagcc agagtcaagg  
1740  
tctgacgcca cctcaagggt acagctcatc tccagcacag cacaggcgtg tgcacacaga  
1800  
ggtgttctt gcagccccct ccctctcagg tgtcctgaga tgctgctcct gggagcccc  
1860  
tcagaaaact gcctcacctg agacaagtgc ctgctggaca gaggtgtgat tccaggcctg  
1920  
gtgtcacatg acaccagcat gcattgcagg attattagtg tattttgagt ctgtaaaaat  
1980  
aataaatatg tttgaagtag ttaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
2040

aaaaaaaaaa aaaaaaaaaa  
2060

<210> 4948  
<211> 127  
<212> PRT  
<213> Homo sapiens

<400> 4948  
Ala Glu Leu Thr Pro Leu Pro Phe Ser Leu Gln Ala Leu Ser Ile Leu  
1 5 10 15  
Met Leu Pro His Asn Ile Pro Ser Ser Leu Ser Leu Leu Thr Ser Met  
20 25 30  
Val Asp Asp Met Trp His Tyr Ala Gly Asp Gln Ser Thr Asp Phe Asn  
35 40 45  
Trp Tyr Thr Arg Arg Ala Met Leu Ala Ala Ile Tyr Asn Thr Thr Glu  
50 55 60  
Leu Val Met Met Gln Asp Ser Ser Pro Asp Phe Glu Asp Thr Trp Arg  
65 70 75 80  
Phe Leu Glu Asn Arg Val Asn Asp Ala Met Asn Met Gly His Thr Ala  
85 90 95  
Lys Gln Val Lys Ser Thr Gly Glu Ala Leu Val Gln Gly Leu Met Gly  
100 105 110  
Ala Ala Val Thr Leu Lys Asn Leu Thr Xaa Leu Asn Gln Arg Arg  
115 120 125

<210> 4949  
<211> 1259  
<212> DNA  
<213> Homo sapiens

<400> 4949  
nngccggcct gtcccccagg ctacttgacg gcgccctgcc accggtgccg ggggctggtg  
60  
gacaagttta accaggggat ggtggacacc gcaaagaaga actttggcgg cggaacacg  
120  
gcttgggagg aaaagacgct gtccaagtac gagtccagcg agattcgctt gctggagatc  
180  
ctggaggggc tgtgagagag cagcgacttc gaatgcaatc agatgctaga ggcgcaggag  
240  
gagcacctgg aggctggtg gctgcagctg aagagcgaat atcctgactt attcgagtgg  
300  
ttttgtgtga agacactgaa agtgtgctgc tctccaggaa cctacggtcc cgactgtctc  
360  
gcatgccagg gcggatccca gagggcctgc agcggggaatg gccactgcag cggagatggg  
420  
agcagacagg gcgacgggtc ctgccggtgc cacatggggt accagggccc gctgtgcact  
480  
gactgcatgg acggctactt cagctcgctc cggaacgaga cccacagcat ctgcacagcc  
540  
tgtgacgagt cctgcaagac gtgctcgggc ctgaccaaca gagactgcgg cgagtgtgaa  
600  
gtgggctggg tgctggacga gggcgctgt gtggatgtgg acgagtgtgc ggccgagccg  
660

cctccctgca gcgctgcgca gttctgtaag aacgccaacg gctcctacac gtgcgaagag  
 720  
 tgtgactcca gctgtgtggg ctgcacaggg gaaggcccag gaaactgtaa agagtgtatc  
 780  
 tctggctacg cgagggagca cggacagtgt gcagatgtgg acgagtgtct actagcagaa  
 840  
 aaaacctgtg tgaggaaaaa cgaaaactgc tacaatactc cagggagcta cgtctgtgtg  
 900  
 tgtcctgacg gcttcgaaga anacggaaga tgctgtgtg ccgccggcag aggctgaagc  
 960  
 cacagaagga gaaagcccga cacagctgcc ctcccgcgaa gacctgtaat gtgccggact  
 1020  
 taccctttaa attattcaga aggatgtccc gtggaaaatg tggccctgag gatgccgtct  
 1080  
 cctgcagtgg acagcggcgg ggagaggctg cctgctctct aacggttgat tctcatttgt  
 1140  
 cccttaaaca gctgcatttc ttggttggtc ttaaacagac ttgtatattt tgatacagtt  
 1200  
 ctttgtaata aaattgacca ttgtaggtaa tcaggaggaa aaaaaaaaaa aaaaaaaaaa  
 1259

&lt;210&gt; 4950

&lt;211&gt; 318

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4950

Xaa	Pro	Ala	Cys	Pro	Pro	Gly	Tyr	Leu	Thr	Ala	Pro	Cys	His	Arg	Cys
1			5						10					15	
Arg	Gly	Leu	Val	Asp	Lys	Phe	Asn	Gln	Gly	Met	Val	Asp	Thr	Ala	Lys
			20					25					30		
Lys	Asn	Phe	Gly	Gly	Gly	Asn	Thr	Ala	Trp	Glu	Glu	Lys	Thr	Leu	Ser
		35				40						45			
Lys	Tyr	Glu	Ser	Ser	Glu	Ile	Arg	Leu	Leu	Glu	Ile	Leu	Glu	Gly	Leu
	50				55						60				
Cys	Glu	Ser	Ser	Asp	Phe	Glu	Cys	Asn	Gln	Met	Leu	Glu	Ala	Gln	Glu
65				70					75					80	
Glu	His	Leu	Glu	Ala	Trp	Trp	Leu	Gln	Leu	Lys	Ser	Glu	Tyr	Pro	Asp
			85					90						95	
Leu	Phe	Glu	Trp	Phe	Cys	Val	Lys	Thr	Leu	Lys	Val	Cys	Cys	Ser	Pro
		100						105					110		
Gly	Thr	Tyr	Gly	Pro	Asp	Cys	Leu	Ala	Cys	Gln	Gly	Gly	Ser	Gln	Arg
	115					120						125			
Pro	Cys	Ser	Gly	Asn	Gly	His	Cys	Ser	Gly	Asp	Gly	Ser	Arg	Gln	Gly
	130				135					140					
Asp	Gly	Ser	Cys	Arg	Cys	His	Met	Gly	Tyr	Gln	Gly	Pro	Leu	Cys	Thr
145				150					155					160	
Asp	Cys	Met	Asp	Gly	Tyr	Phe	Ser	Ser	Leu	Arg	Asn	Glu	Thr	His	Ser
			165					170						175	
Ile	Cys	Thr	Ala	Cys	Asp	Glu	Ser	Cys	Lys	Thr	Cys	Ser	Gly	Leu	Thr
	180						185					190			
Asn	Arg	Asp	Cys	Gly	Glu	Cys	Glu	Val	Gly	Trp	Val	Leu	Asp	Glu	Gly
	195					200						205			
Ala	Cys	Val	Asp	Val	Asp	Glu	Cys	Ala	Ala	Glu	Pro	Pro	Pro	Cys	Ser

210	215	220
Ala Ala Gln Phe Cys Lys Asn Ala Asn Gly Ser Tyr Thr Cys Glu Glu		
225	230	235
Cys Asp Ser Ser Cys Val Gly Cys Thr Gly Glu Gly Pro Gly Asn Cys		240
	245	250
Lys Glu Cys Ile Ser Gly Tyr Ala Arg Glu His Gly Gln Cys Ala Asp		255
	260	265
Val Asp Glu Cys Ser Leu Ala Glu Lys Thr Cys Val Arg Lys Asn Glu		270
	275	280
Asn Cys Tyr Asn Thr Pro Gly Ser Tyr Val Cys Val Cys Pro Asp Gly		285
	290	295
Phe Glu Glu Xaa Gly Arg Cys Leu Cys Ala Ala Gly Arg Gly		300
305	310	315

<210> 4951  
 <211> 1835  
 <212> DNA  
 <213> Homo sapiens

<400> 4951  
 ngagctcttg cgctcagctg gccccacca ctctcacctg ccgcctgggc tcgctcccgg  
 60  
 cttctctcca gccgtcgact ccacgcctcg cgctctctgc gagaggagga ggctccacgg  
 120  
 agcgacgact tccgccctcc ttagggccgt ggtcccgtag ctaccggctg cgtcgccgtg  
 180  
 ggcgacgtgc ccgcttccaa aatggcgggc gcggcggtat ctggtgcgct tggccggggc  
 240  
 ggctggaggc tcctgcagct gcgatgcctg cccgtggccc gttgccgaca agccctgggtg  
 300  
 ccgcgtgcct tccatgcttc agctgtgggg ctaaggctct cagatgagca gaagcagcag  
 360  
 cctcccaact cattttctca gcagcattct gagacacagg gggcagaaaa acctgatcca  
 420  
 gagtcttctc attcaccccc caggtataca gaccagggcg gcgaggagga ggaggactat  
 480  
 gaaagtgagg agcagttgca gcaccgcac ctgacggcag cccttgagtt tgtgcccgcc  
 540  
 cacgggtgga cagcagaggc gattgcagaa ggagcccagt ctctgggtct ctccagtgca  
 600  
 gcagccagca tgtttggaag gatgggcagt gagctaatac tgcattttgt gaccagtgca  
 660  
 aatacccggc tcacacgtgt gctagaagag gagcagaagc tggtagagtt gggccaggcg  
 720  
 gagaagagga agacagacca gttcctgagg gatgcagtgg aaaccagact gagaatgctg  
 780  
 atcccataca ttgagcactg gccccggggc ctcagcatcc tcatgctccc tcacaacatc  
 840  
 ccgtccagcc tgagcctgct caccagcatg gtggatgaca tgtggcatta cgctggggac  
 900  
 cagtccactg attttaactg gtacaccgcg cgagccatgc tggctgcat ctacaacaca  
 960  
 acagagctgg tgatgatgca ggactcctct ccagactttg aggacacttg gcgcttctg  
 1020

gaaaaccggg ttaatgatgc aatgaacatg ggccacactg ccaagcaggt aaagtccaca  
 1080  
 ggagaggcac tgggtgcaagg actcatgggt gcagcagtga cgctcaagaa cttgacaggt  
 1140  
 ctaaaccagc gtcggtgaga ggaaggggta taagctacaa tgcctagaag agaatgagcg  
 1200  
 gacagattga aagagctttg aaaagtataa ggtgccatcc acataacctg gtgttcacga  
 1260  
 gaacacacta aaggactcct gagtcactac cacagccacc tggaaaccac aaggcatttg  
 1320  
 atgtaccgt tctggtcagg gattgggctg cttcttcagt tcctaatacc agaccaagcc  
 1380  
 tcctgatgcc tttctgcact gcaactgtgt gattgaaaaa tgagatgttc atccaagcag  
 1440  
 tcaagccaca gaaaccagc atgtccctgt cacaatctca tgggcacctt gatcatgtct  
 1500  
 taaccttccc ttaaccttgg ggctcccaag ccagagtcaa ggtctgacgc cacctcaagg  
 1560  
 tgacagctca tctccagcac agcacaggcg tgtgcacaca gaggtgttcc ttgcagcccc  
 1620  
 ctccctctca ggtgtcctga gatgctgctc ctgggagccc cctcagaaaa ctgcctcacc  
 1680  
 tgagacaagt gcctgctgga cagaggtgtg attccaggcc tgggtgtcaca tgacaccagc  
 1740  
 atgcattgca ggattattag tgtattttga gtctgtaaaa ataataaata tgtttgaagt  
 1800  
 agttaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa  
 1835

<210> 4952

<211> 318

<212> PRT

<213> Homo sapiens

<400> 4952

Met	Ala	Ala	Ala	Val	Ser	Gly	Ala	Leu	Gly	Arg	Ala	Gly	Trp	Arg
1			5					10					15	
Leu	Leu	Gln	Leu	Arg	Cys	Leu	Pro	Val	Ala	Arg	Cys	Arg	Gln	Ala
			20					25					30	Leu
Val	Pro	Arg	Ala	Phe	His	Ala	Ser	Ala	Val	Gly	Leu	Arg	Ser	Ser
			35				40					45		Asp
Glu	Gln	Lys	Gln	Gln	Pro	Pro	Asn	Ser	Phe	Ser	Gln	Gln	His	Ser
			50				55				60			Glu
Thr	Gln	Gly	Ala	Glu	Lys	Pro	Asp	Pro	Glu	Ser	Ser	His	Ser	Pro
65					70				75					80
Arg	Tyr	Thr	Asp	Gln	Gly	Gly	Glu	Glu	Glu	Glu	Asp	Tyr	Glu	Ser
			85					90					95	Glu
Glu	Gln	Leu	Gln	His	Arg	Ile	Leu	Thr	Ala	Ala	Leu	Glu	Phe	Val
			100					105					110	Pro
Ala	His	Gly	Trp	Thr	Ala	Glu	Ala	Ile	Ala	Glu	Gly	Ala	Gln	Ser
			115				120					125		Leu
Gly	Leu	Ser	Ser	Ala	Ala	Ala	Ser	Met	Phe	Gly	Arg	Met	Gly	Ser
			130				135				140			Glu
Leu	Ile	Leu	His	Phe	Val	Thr	Gln	Cys	Asn	Thr	Arg	Leu	Thr	Arg
														Val

```

145          150          155          160
Leu Glu Glu Glu Gln Lys Leu Val Gln Leu Gly Gln Ala Glu Lys Arg
          165          170          175
Lys Thr Asp Gln Phe Leu Arg Asp Ala Val Glu Thr Arg Leu Arg Met
          180          185          190
Leu Ile Pro Tyr Ile Glu His Trp Pro Arg Ala Leu Ser Ile Leu Met
          195          200          205
Leu Pro His Asn Ile Pro Ser Ser Leu Ser Leu Leu Thr Ser Met Val
          210          215          220
Asp Asp Met Trp His Tyr Ala Gly Asp Gln Ser Thr Asp Phe Asn Trp
225          230          235          240
Tyr Thr Arg Arg Ala Met Leu Ala Ala Ile Tyr Asn Thr Thr Glu Leu
          245          250          255
Val Met Met Gln Asp Ser Ser Pro Asp Phe Glu Asp Thr Trp Arg Phe
          260          265          270
Leu Glu Asn Arg Val Asn Asp Ala Met Asn Met Gly His Thr Ala Lys
          275          280          285
Gln Val Lys Ser Thr Gly Glu Ala Leu Val Gln Gly Leu Met Gly Ala
          290          295          300
Ala Val Thr Leu Lys Asn Leu Thr Gly Leu Asn Gln Arg Arg
305          310          315

```

<210> 4953  
 <211> 355  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4953
gtgcacgcag gaaatggcgg gtgggaggca ggacaggaga gcccaggcct ggacaccact
60
gtcagcctgg ggatgcttgg cggcttctcc agtcctggga gcaggcatca cctggccgcg
120
ggtgccccct ggtggcagct tgaaggaagg acgggcagtg ggtcgcagcc agcggggacc
180
taccgccaa aacgcacata aaagctggaa tcagcttggt acagctgcag gtcctctctg
240
tccgatttgg atagaccctc ttgggaccca ctgcaccagg gaaccccaaa tgcagctcag
300
cagcatggga ggagccctgt ctgctggggg tgtctgggat cgtcggagag aggct
355

```

<210> 4954  
 <211> 114  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4954
Met Ala Gly Gly Arg Gln Asp Arg Arg Ala Gln Ala Trp Thr Pro Leu
1          5          10          15
Ser Ala Trp Gly Cys Leu Ala Ala Ser Pro Val Leu Gly Ala Gly Ile
          20          25          30
Thr Trp Pro Arg Val Pro Pro Gly Gly Ser Leu Lys Glu Gly Arg Ala
          35          40          45
Val Gly Arg Ser Gln Arg Gly Pro Thr Pro Gln Asn Ala His Lys Ser

```

```

      50              55              60
Trp Asn Gln Leu Val Thr Ala Ala Gly Pro Ser Arg Pro Ile Trp Ile
65              70              75              80
Asp Pro Leu Gly Thr His Cys Thr Arg Glu Pro Gln Met Gln Leu Ser
      85              90              95
Ser Met Gly Gly Ala Leu Ser Ala Gly Gly Val Trp Asp Arg Arg Arg
      100              105              110
Glu Ala

```

<210> 4955  
 <211> 364  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4955
agatctaagg ccctcgggag agatgggaac tgagcacctg ggtcttagac cggaggagca
60
aactgcaaga caggggtggcc ggggacacca gcctccgccc ttctgtgaca taaggacaag
120
agctcagcct gcccaggaac aactctgggc aagagatgtg gaaagaaaga gctcangggg
180
gggcacgcat ggcacacctg ggggacatct gagggcaccc ccaccacta ttcctccctc
240
caaggtggcc tctgagtgtg aaggcagggg gaagcagaca cctgccccctc actctccctc
300
cctaccacat agctaccggg tggggggcgt ccctgggatg attcctgagg gcaggatcca
360
gggg
364

```

<210> 4956  
 <211> 114  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4956
Met Gly Thr Glu His Leu Gly Leu Arg Pro Glu Glu Gln Thr Ala Arg
 1              5              10              15
Gln Gly Gly Arg Gly His Gln Pro Pro Phe Cys Asp Ile Arg Thr
      20              25              30
Arg Ala Gln Pro Ala Gln Glu Gln Leu Trp Ala Arg Asp Val Glu Arg
      35              40              45
Lys Ser Ser Xaa Gly Gly Thr His Gly Ile Leu Gly Gly His Leu Arg
      50              55              60
Ala Pro Pro Pro Thr Ile Pro Pro Ser Lys Val Ala Ser Glu Cys Glu
65              70              75              80
Gly Arg Gly Lys Gln Thr Pro Ala Pro His Ser Pro Ser Leu Pro His
      85              90              95
Ser Tyr Arg Val Gly Gly Val Pro Gly Met Ile Pro Glu Gly Arg Ile
      100              105              110
Gln Gly

```



<210> 4957  
 <211> 872  
 <212> DNA  
 <213> Homo sapiens

<400> 4957  
 nttcatattt tttttttttt ttggacacaa catgatatta ggctttattt gaatttaaaa  
 60  
 tcttgattcc atccaggac attttttacc gaagcgtctc agagactggc tcagggtatt  
 120  
 tcttgacaag actgtacagg gcttctcatc atacacaaac cctccacagc ccacggctcc  
 180  
 aacccacagc acctcctgca gtccctggagg gaaaaggagc agtaacatga agtgtctgaa  
 240  
 gatccatttc acctcttttc catgtgaatc atgacgcttt caatgcattt cttgacagga  
 300  
 ttctattttg aaagaatgat gctcaatctg taccttttat gcttcttggt tcttctccat  
 360  
 caataatatg tcagtcaact gcttgctcaga gacacttagc tgctgacagg tcctcataac  
 420  
 ctgactcagg taaactgcca agagatgctt gcacaggatg ctgtcactct tccgtagcac  
 480  
 tgagaatgca aatgcaggac atgaacagta atgacaagaa gccaaacatg tgtatgtttt  
 540  
 actggaactt ccaaggacct ggtaaacacg ccttccactg ggtgatgaga ttaaggtgat  
 600  
 ggactgtcga tcaactaggt ccaaggcctg ggtggctgat gagccaaaga gaaacttcag  
 660  
 cgataacaga tattcatcag gaattcggtc ccgtacttcg cgcgctctcc tgcaccgcgcg  
 720  
 ccgccatctc gctcaggagc tcctccacaa ccgccggcaa ctacggccat cgcgccgcgag  
 780  
 gacacgccct ccacgacgcg gaccgcgcga cgctccagct gactgcgcct acctgtggag  
 840  
 gatcctgacc ccccgccggc ctcgttccga at  
 872

<210> 4958  
 <211> 51  
 <212> PRT  
 <213> Homo sapiens

<400> 4958  
 Gln Ile Phe Ile Arg Asn Ser Val Pro Tyr Phe Ala Arg Ser Pro Ala  
 1 5 10 15  
 Pro Pro Pro Pro Ser Arg Ser Gly Ala Pro Pro Gln Pro Pro Ala Thr  
 20 25 30  
 Thr Ala Ile Ala Pro Gln Asp Thr Pro Ser Thr Thr Arg Thr Ala Arg  
 35 40 45  
 Arg Ser Ser  
 50

<210> 4959  
 <211> 449

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4959

acgcgtgtca aggctgggaa tgcaaatggt agtgggtggtt tcctttgctg ggggttgatg  
60  
cagtgggttg gggggcttcc atttgcagtt gagggccagg tgtttgggtc cttccatgtg  
120  
gcagggataa agaggagagc tggcatctgg agtcatgatac tgtctgagag gcagtgcctc  
180  
cggccaccgt aggatggagg ccagcttcca gccctggctg atgggggaga agcagcgaat  
240  
tctccagatg tggatggca gacctttgga agattcactc ggcctccact taaccttgtg  
300  
agaccaaagg ccacagcccc atgtgttctg cgtgctgttg aacatgtttg tatttcattg  
360  
gcgtggatga taatttggtt gaaaggagag atggtcacca gtggactcag tttaggaagg  
420  
cacaaaggtc aaccttttcc gtttctaga  
449

&lt;210&gt; 4960

&lt;211&gt; 115

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4960

Met	Phe	Asn	Ser	Thr	Gln	Asn	Thr	Trp	Gly	Cys	Gly	Leu	Trp	Ser	His
1				5					10					15	
Lys	Val	Lys	Trp	Arg	Pro	Ser	Glu	Ser	Ser	Lys	Gly	Leu	Pro	Tyr	His
			20					25					30		
Ile	Trp	Arg	Ile	Arg	Cys	Phe	Ser	Pro	Ile	Ser	Gln	Gly	Trp	Lys	Leu
		35				40					45				
Ala	Ser	Ile	Leu	Arg	Trp	Pro	Glu	Ala	Leu	Pro	Leu	Arg	Gln	Ile	Met
		50				55					60				
Thr	Pro	Asp	Ala	Ser	Ser	Pro	Leu	Tyr	Pro	Cys	His	Met	Glu	Gly	Pro
65				70						75				80	
Lys	His	Leu	Ala	Leu	Asn	Cys	Lys	Trp	Lys	Pro	Pro	Gln	Pro	Leu	His
			85						90					95	
Gln	Pro	Pro	Ala	Lys	Glu	Thr	Thr	Thr	Ile	Cys	Ile	Pro	Ser	Leu	
			100					105						110	
Asp	Thr	Arg													
			115												

&lt;210&gt; 4961

&lt;211&gt; 4737

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4961

gcggccgcca caccagcac cacaggcacc aagtccaaca cgccacatc ctccgtgccc  
60  
tcggccgccc tcacaccct caacgagagc ctgcagcccc tgggggacta tggcgtgggc  
120

tccaagaaca gcaagcgtgc ccgggagaag cgcgacagcc gcaacatgga agtacaggtc  
180  
accaggaga tgcgcaacgt cagtataggc atgggcagca gtgacgagtg gtctgatgtt  
240  
caagacatta ttgactccac gccagagctg gacatgtgtc cagagacccg cctggaccgc  
300  
acaggaagca gcccaaccca gggcatcgtg aacaaagctt tcggcatcaa caccgactcc  
360  
ctgtaccatg agctgtcgac ggcagggtct gaggtcatcg gggatgtgga cgaagggggc  
420  
gacctcctag gggagttctc aggaatgggc aaagaagtgg ggaatctgct actggaaaac  
480  
tcacagcttc tggaaaccaa aaacgccttg aatgtggtga agaatacct gattgccaag  
540  
gtcgaccagc tgtccgggga gcaggaggtg ctgaggggag agttggaggc tgctaagcag  
600  
gccaaagtca agctggaaaa ccgtatcaag gagctggaag aggaactgaa aagagtgaag  
660  
tccgaggcca tcatcgcccg ccgtgaaccc aaagaagagg cggaggatgt aagcagctat  
720  
ctctgtacag aatcggaaca aatccccatg gccagcgcc gccgcttcac gcgggtggag  
780  
atggcccgtg tgcctatgga gcggaaccag tacaaggagc ggctgatgga gctgcaggag  
840  
gctgtgcggt ggactgagat gatcagagcg tcccagagagc acccatccgt ccaggagaag  
900  
aagaagtcca ccatctggca gttcttcagc cgcctcttca gctcttctc cagccccct  
960  
ccggccaagc gccctatcc ctcggtgaac atccactaca agtcacccac cactgccggc  
1020  
ttcagccagc gccgcaacca tgccatgtgc ccgatctcgg caggcagccg gccctggaa  
1080  
ttcttcctg acgacgactg cacgtcctcc gcccgtcgag agcagaagcg cgagcagtac  
1140  
cgccagggtg gtgagcacgt gcgtaacgac gacggccgtc tgcaggcctg cggctggagc  
1200  
ctgcccgcga agtacaagca gctgagtcac aacggggggc aggaggacac gcggatgaag  
1260  
aacgtgccgg tgccggtgta ctgccgccct ctggtggaga aggacccac catgaagctg  
1320  
tggtgtgccg cgggctgcaa cctgagcggg tggaggccca atgaggacga cgctgggaat  
1380  
ggagtcaagc cagcgccagg ccgcatccc ctgacctgcg accgcgaagg agacggcgag  
1440  
cccaagagcg cccacgcgtc tcccagagaag aagaaggcca aggagctccc tgaaatggac  
1500  
gccacctcca gccgggtgtg gatcctgacc agcaccctga ccaccagcaa ggtggtgatc  
1560  
atcgacgcca accagccggg cacggtggtg gaccagttca ccgtctgcaa cgcgcacgtg  
1620  
ctgtgcatct ccagcatccc cgcggccagc gacagcgact accctcccgg ggagatgttc  
1680  
ctggacagcg acgtgaaccc agaggacccg ggcgcagatg gcgtgctggc cggtatcacc  
1740

ctggtgggct gtgccacccg ctgcaacgtg ccgcggagca actgctcctc ccgagggggac  
1800  
accccagtgc tagacaaggg gcagggggag gtggccacca tcgccaacgg gaaggtcaac  
1860  
ccgtcccagt ccacagagga ggccacagag gccacggagg tgccagaccc tgggcccagc  
1920  
gagccagaga cagccacatt gcggcccggg cctctcacag agcacgtctt cactgaccca  
1980  
gccccgaccc cgtcctctgg cccccagcct ggcagcgaga acggggccaga gcctgacagc  
2040  
agcagcacac ggccagagcc agagcccagc ggggacccca cgggagcagg cagcagtgtc  
2100  
gcaccaccca tgtggctggg agcccagaac ggctggctct atgtgactc ggctgtggcc  
2160  
aactggaaga agtgccctgca ctccatcaag ctgaaggatt ctgtgctgag cctggtgcat  
2220  
gtcaaaggcc gtgtgctggg ggctctggcg gacgggaccc tggccatctt ccaccgtggg  
2280  
gaagatggcc agtgggatct gagcaactat cacctaattg acctgggcca ccgcaccac  
2340  
tccatccgct gcatggctgt tgtgtacgac cgcgtgtggg gtggctacaa gaacaagggtg  
2400  
cacgtcatcc agcccaagac catgcagata gagaagtcat ttgacgcca ccgcggcgg  
2460  
gagagccagg tgcggcagct ggcgtggatc ggcgatggcg tatgggtgtc catccgcctg  
2520  
gactccccc tgaggctcta ccatgcacac acgcaccagc atctacagga cgtggacatt  
2580  
gagccctacg tcagcaagat gctaggcact ggcaagctgg gtttctcctt cgtacgcac  
2640  
acggccctgc ttgtcgcggg cagccggctc tgggtgggca ccggcaacgg agtgggtcatc  
2700  
tccatccccc tgacagagac tgtgggtcctg caccgaggcc agctcctggg gctccgagcc  
2760  
aataagacat cccccacctc tggggagggc gcccgctccg ggggcatcat ccacgtgtat  
2820  
ggcgatgaca gcagtacag ggcgccagc agcttcatcc cctactgtc catggcccag  
2880  
gccagctat gcttccatgg gcaccgcgat gccgtgaagt tctttgtctc ggtgccaggg  
2940  
aacgtgctgg ccacctgaa tggcagtgtg ctggacagcc cagccgaggg ccctggggca  
3000  
gctgcccctg cctcggaggt cgagggccag aagctgcgga acgtgctggg gctgagcggc  
3060  
ggggagggct acatcgactt ccgcattgga gacggagagg acgacgagac ggaggagggc  
3120  
gcaggggaca tgagccaggt gaagcccgtg ctgtccaagg cagagcgagc tcacatcatc  
3180  
gtgtggcagg tgtcctacac ccccagtgga agctgctgcc ctgcctggcc cgacctgtac  
3240  
ataggacccc cgaccacctg acccccgcgc ggcccgcggg gtagccagcc aggcgcgcgc  
3300  
gcccctcttc taacctctca acctgcagct ttcacctgag tctggcccct ccagcgggca  
3360

gggagtgcgg ggatgcggat cagctgggag gaggagggga ggggtgcttc caccgaggg  
3420  
gaagatgctc tcgggacagt ttcccgggca gctcctggcc agcttccage ccagagtcc  
3480  
caagtccagg gcaccttggg cccagcgcag gcagaatccg aggtggctct ggctctaccc  
3540  
tgggcctcct actccccagc acccctggag gaggcagggg ctccccgccc ccgaggctgc  
3600  
ctgccctggg cccacctccg catgctgctc atggggccac cctgcctcct gggccctcac  
3660  
tctgcctagg ggagctgggc caggcactag cctttgccc a gggaggtggg cctcaggctg  
3720  
cccaggtgcc tgcaccccag ccggccttct ctggggcctc cccgtcgtca agcctctatc  
3780  
ctgtctgtcc ccaccccagc tgtcccctgc ccagggaact ggcataaaag cacgaggccc  
3840  
ggctccctgg ggcagctgct tgagaacaga gactgctacc ccacccctgcc catgcaggca  
3900  
ggctcttgcc agccccgttc tgaccctgtt cccccaggc tctgcctggg cagaagactc  
3960  
accttgagg agtggggccct ggagtcctgt ccctcccaga agccccagg gtgggatttc  
4020  
tcaggctgcc agggcaggcc caggcctcag gaagaagggg agggccctgg cctctccggg  
4080  
atcagtccta ggacacaggc tcagcctcag gttgatgggg gatgatgtgc tcccggggcc  
4140  
tgctcctgc acggggctcc acggagccca gctcccagac acgctactaa gtgcctaggg  
4200  
ttgcccgtg tggcctgctc ccaggagca acagagaggc caccaagcag agggccgtgg  
4260  
ggctgaggat ggagccgccc ccagccgact ccaagcccgc agagggcaga cgccacctg  
4320  
gactgctctc cctgcccagc tgggcctctc tggcctattc ctaccttcca gggccactgc  
4380  
actcctgtct gggaggccct tatgagggca gccagcccc cgcaccacc cccaaccaga  
4440  
gaagcacaga tcttggggag ctgccccaca agccccgtg gccaccgagg gctgcagccg  
4500  
ctgcgtgcc ggcttctccc caccacctg ccacctccac tgtgatgtat gtccgtccc  
4560  
tcgtctgttc ccccaggatc tcgaagtgc tccgggctga gcagtggggc ggctggggga  
4620  
ggggtgacga ttctcctcag gctttggccc tgcaagcaaa cccacatctc tgctctgtat  
4680  
gtaataaatg tcttaacgtc aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa  
4737

&lt;210&gt; 4962

&lt;211&gt; 1069

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4962

Ala Ala Ala Thr Pro Ser Thr Thr Gly Thr Lys Ser Asn Thr Pro Thr

```

1           5           10           15
Ser Ser Val Pro Ser Ala Ala Val Thr Pro Leu Asn Glu Ser Leu Gln
20           25           30
Pro Leu Gly Asp Tyr Gly Val Gly Ser Lys Asn Ser Lys Arg Ala Arg
35           40           45
Glu Lys Arg Asp Ser Arg Asn Met Glu Val Gln Val Thr Gln Glu Met
50           55           60
Arg Asn Val Ser Ile Gly Met Gly Ser Ser Asp Glu Trp Ser Asp Val
65           70           75           80
Gln Asp Ile Ile Asp Ser Thr Pro Glu Leu Asp Met Cys Pro Glu Thr
85           90           95
Arg Leu Asp Arg Thr Gly Ser Ser Pro Thr Gln Gly Ile Val Asn Lys
100          105          110
Ala Phe Gly Ile Asn Thr Asp Ser Leu Tyr His Glu Leu Ser Thr Ala
115          120          125
Gly Ser Glu Val Ile Gly Asp Val Asp Glu Gly Ala Asp Leu Leu Gly
130          135          140
Glu Phe Ser Gly Met Gly Lys Glu Val Gly Asn Leu Leu Leu Glu Asn
145          150          155          160
Ser Gln Leu Leu Glu Thr Lys Asn Ala Leu Asn Val Val Lys Asn Asp
165          170          175
Leu Ile Ala Lys Val Asp Gln Leu Ser Gly Glu Gln Glu Val Leu Arg
180          185          190
Gly Glu Leu Glu Ala Ala Lys Gln Ala Lys Val Lys Leu Glu Asn Arg
195          200          205
Ile Lys Glu Leu Glu Glu Glu Leu Lys Arg Val Lys Ser Glu Ala Ile
210          215          220
Ile Ala Arg Arg Glu Pro Lys Glu Glu Ala Glu Asp Val Ser Ser Tyr
225          230          235          240
Leu Cys Thr Glu Ser Asp Lys Ile Pro Met Ala Gln Arg Arg Arg Phe
245          250          255
Thr Arg Val Glu Met Ala Arg Val Leu Met Glu Arg Asn Gln Tyr Lys
260          265          270
Glu Arg Leu Met Glu Leu Gln Glu Ala Val Arg Trp Thr Glu Met Ile
275          280          285
Arg Ala Ser Arg Glu His Pro Ser Val Gln Glu Lys Lys Lys Ser Thr
290          295          300
Ile Trp Gln Phe Phe Ser Arg Leu Phe Ser Ser Ser Ser Pro Pro
305          310          315          320
Pro Ala Lys Arg Pro Tyr Pro Ser Val Asn Ile His Tyr Lys Ser Pro
325          330          335
Thr Thr Ala Gly Phe Ser Gln Arg Arg Asn His Ala Met Cys Pro Ile
340          345          350
Ser Ala Gly Ser Arg Pro Leu Glu Phe Phe Pro Asp Asp Cys Thr
355          360          365
Ser Ser Ala Arg Arg Glu Gln Lys Arg Glu Gln Tyr Arg Gln Val Arg
370          375          380
Glu His Val Arg Asn Asp Asp Gly Arg Leu Gln Ala Cys Gly Trp Ser
385          390          395          400
Leu Pro Ala Lys Tyr Lys Gln Leu Ser Pro Asn Gly Gly Gln Glu Asp
405          410          415
Thr Arg Met Lys Asn Val Pro Val Pro Val Tyr Cys Arg Pro Leu Val
420          425          430
Glu Lys Asp Pro Thr Met Lys Leu Trp Cys Ala Ala Gly Val Asn Leu

```

4131

865		870		875		880									
Thr	Ala	Leu	Leu	Val	Ala	Gly	Ser	Arg	Leu	Trp	Val	Gly	Thr	Gly	Asn
		885							890					895	
Gly	Val	Val	Ile	Ser	Ile	Pro	Leu	Thr	Glu	Thr	Val	Val	Leu	His	Arg
		900						905					910		
Gly	Gln	Leu	Leu	Gly	Leu	Arg	Ala	Asn	Lys	Thr	Ser	Pro	Thr	Ser	Gly
		915				920						925			
Glu	Gly	Ala	Arg	Pro	Gly	Gly	Ile	Ile	His	Val	Tyr	Gly	Asp	Asp	Ser
		930				935				940					
Ser	Asp	Arg	Ala	Ala	Ser	Ser	Phe	Ile	Pro	Tyr	Cys	Ser	Met	Ala	Gln
945					950					955				960	
Ala	Gln	Leu	Cys	Phe	His	Gly	His	Arg	Asp	Ala	Val	Lys	Phe	Phe	Val
			965					970						975	
Ser	Val	Pro	Gly	Asn	Val	Leu	Ala	Thr	Leu	Asn	Gly	Ser	Val	Leu	Asp
		980						985					990		
Ser	Pro	Ala	Glu	Gly	Pro	Gly	Pro	Ala	Ala	Pro	Ala	Ser	Glu	Val	Glu
		995				1000						1005			
Gly	Gln	Lys	Leu	Arg	Asn	Val	Leu	Val	Leu	Ser	Gly	Gly	Glu	Gly	Tyr
	1010					1015					1020				
Ile	Asp	Phe	Arg	Ile	Gly	Asp	Gly	Glu	Asp	Asp	Glu	Thr	Glu	Glu	Gly
1025					1030					1035					1040
Ala	Gly	Asp	Met	Ser	Gln	Val	Lys	Pro	Val	Leu	Ser	Lys	Ala	Glu	Arg
			1045					1050					1055		
Ser	His	Ile	Ile	Val	Trp	Gln	Val	Ser	Tyr	Thr	Pro	Glu			
		1060						1065							

&lt;210&gt; 4963

&lt;211&gt; 1575

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4963

```

ctcgaggact tctacggccc ctgcgccaag accagtgaga aggggcccta cttcctgacg
60
gagtacagca ctcaccagct cttcagccag ctcacgctgc tacagcagga gttgtttcaa
120
aagtgccacc cggtccactt cctgaactca cgggccctgg gcgtcatgga caagagcact
180
gccatcccca aagccagctc ttctgagtct ctttcggcca aaacctgcag cttatttctg
240
cccaattacg ttcaggacaa gatatctgta cagcttctaa gaaacgcaga tgacgtcagc
300
acctgggtgg ctgcagagat tgtgaccagc cacacctcca agctgcaggt gaacttgcgtg
360
tccaaatttn tgctgattgc aaaatcttgc tatgagcaga gaaacttcgc gacagccatg
420
cagatcctga gcgggctgga gcacctggcc gtgaggcagt cccctgcctg gagaattctg
480
cctgcaaaga tagcagaggt catggaggag ctgaaagccg tggagggtctt cctgaagagc
540
gacagcctgt gtctgatgga agggcgggcg ttccggggcg agcccacct gccctcggcc
600
cacctcctgg ccatgcacat ccagcagctg gagacaggcg gcttcacat gaccaacggg
660

```



gcccacaggt ggagcaagct caggaacatc gcaaaggtgg tgagccaggt gcacgcgttc  
 720  
 caggagaacc cttacacctt cagccccgac cccaagctcc agtcgtacct caagcagagg  
 780  
 attgcccgtc tcagcgggtgc cgacatttcc acactcgccg cagatagcag ggccaacttc  
 840  
 caccaggtct ccagcgagaa gcactcacgg aagattcagg acaagctacg gaggatgaag  
 900  
 gctacattcc agtagccgag ctccgggctg gtgtggaatt ccagatccga atccgactgt  
 960  
 gggggggcggg ctggggagggtg ggagccgcgt ctccaggccc ggcgttatca aggcccctcc  
 1020  
 gccccgaac cctggggagc tggaccagga ggtggagggt caggggaccc catggggaca  
 1080  
 ggcagagctg gtctcctccc agcagacgga gccaggacgg gcacaagagt cttggagggt  
 1140  
 tgcgtgtttc tgctagaatt aaaaagttaa atttaaaaat gaaaatgaaa gacagcttcc  
 1200  
 caggagtttt gtgcctgtct gcgcctctca cacacagata agtggctctt acccagctct  
 1260  
 cagtgactcc cccacaaaac agcaacagcc tccaccgcca actcaacaaa cttcagagta  
 1320  
 gtcctcctcct gagcagggtt ctgagccagc ctccggttggc tgagcaacga agggccaaag  
 1380  
 ctgacctctg agtggccaac tgcagctccc agggactccg agacctccgg tccgagaccc  
 1440  
 tgcctggggtt cccccccac aaccagacc cagaaccgct ctcccccttc ctgccagt  
 1500  
 cccctcttcc ccagcccaga ccccagggtg cccaaggcct gctgctggag caggcacctt  
 1560  
 gggctggggc tgctc  
 1575

&lt;210&gt; 4964

&lt;211&gt; 304

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4964

Leu	Glu	Asp	Phe	Tyr	Gly	Pro	Cys	Ala	Lys	Thr	Ser	Glu	Lys	Gly	Pro
1				5					10					15	
Tyr	Phe	Leu	Thr	Glu	Tyr	Ser	Thr	His	Gln	Leu	Phe	Ser	Gln	Leu	Thr
		20					25					30			
Leu	Leu	Gln	Gln	Glu	Leu	Phe	Gln	Lys	Cys	His	Pro	Val	His	Phe	Leu
		35					40					45			
Asn	Ser	Arg	Ala	Leu	Gly	Val	Met	Asp	Lys	Ser	Thr	Ala	Ile	Pro	Lys
	50					55					60				
Ala	Ser	Ser	Ser	Glu	Ser	Leu	Ser	Ala	Lys	Thr	Cys	Ser	Leu	Phe	Leu
65				70					75					80	
Pro	Asn	Tyr	Val	Gln	Asp	Lys	Tyr	Leu	Leu	Gln	Leu	Leu	Arg	Asn	Ala
				85					90					95	
Asp	Asp	Val	Ser	Thr	Trp	Val	Ala	Ala	Glu	Ile	Val	Thr	Ser	His	Thr
		100					105					110			
Ser	Lys	Leu	Gln	Val	Asn	Leu	Leu	Ser	Lys	Phe	Xaa	Leu	Ile	Ala	Lys

115	120	125
Ser Cys Tyr Glu Gln Arg Asn Phe Ala Thr Ala Met Gln Ile Leu Ser		
130	135	140
Gly Leu Glu His Leu Ala Val Arg Gln Ser Pro Ala Trp Arg Ile Leu		
145	150	155
Pro Ala Lys Ile Ala Glu Val Met Glu Glu Leu Lys Ala Val Glu Val		
165	170	175
Phe Leu Lys Ser Asp Ser Leu Cys Leu Met Glu Gly Arg Arg Phe Arg		
180	185	190
Ala Gln Pro Thr Leu Pro Ser Ala His Leu Leu Ala Met His Ile Gln		
195	200	205
Gln Leu Glu Thr Gly Gly Phe Thr Met Thr Asn Gly Ala His Arg Trp		
210	215	220
Ser Lys Leu Arg Asn Ile Ala Lys Val Val Ser Gln Val His Ala Phe		
225	230	235
Gln Glu Asn Pro Tyr Thr Phe Ser Pro Asp Pro Lys Leu Gln Ser Tyr		
245	250	255
Leu Lys Gln Arg Ile Ala Arg Phe Ser Gly Ala Asp Ile Ser Thr Leu		
260	265	270
Ala Ala Asp Ser Arg Ala Asn Phe His Gln Val Ser Ser Glu Lys His		
275	280	285
Ser Arg Lys Ile Gln Asp Lys Leu Arg Arg Met Lys Ala Thr Phe Gln		
290	295	300

&lt;210&gt; 4965

&lt;211&gt; 1474

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4965

gattcttcat atttccgtgg ctgtttacgg gaagaaggag gccatttcca catgtggaag  
 60  
 aaagcattca aaggagcag caggtctctc cccacgcctt gcagagacgg tcaggagaga  
 120  
 ccccaagcag agagcacgct gctcagggac agagctgggc ttgtgaccat gtgtcgccct  
 180  
 ggcgctgtgc ttccaggtcc tcgcctggag ggcagctgta ttctcagaga gccagccttt  
 240  
 cctacagccc ttttagtgac caggggcatt tcctaccctc acttgatctc aaagccacgg  
 300  
 tcggtaggaa caaaaagggtg gggtttctag caggctggaa atggccagca ggggagcaag  
 360  
 ccgcggtgc ctgggagtg cggttggtca ggtcaggctg tagatgtatc ctgtagactc  
 420  
 aaggccgctt ctcaggagtc cagagtccca taaaccacca tgagtgcctt cctgggatct  
 480  
 cattctgctc agaaactcat tgattttact ctgaagcacc cacgaatgac agattccag  
 540  
 gaggggcaga gaaggctgag cggcaccacg tggggctggc cgcgggttgt gggcatgagc  
 600  
 acgcctggag aggccatggg gctggtgaca agctctggcc agaagacccc aagaaggtct  
 660  
 gatcctgggg tctgatccag gcctgcggca ctgggtccta ggcagactgt ctgcctgggtg  
 720

agacgtggaa ggagccagtg tccgcagccg tctcaggacg tcagagagct cgggtggcctg  
 780  
 tctccagcag catgctctcc agatgcagcc tactgtcgct ctccacatag ggctgggtgca  
 840  
 gccacatgga caggtagctc aggggtgaggt cgggatcccc ggtgtgggca agctccttgg  
 900  
 ccaccgtgcg cttcaggagc agctccttcc tgtacatctc caagagctta tgcgaaacct  
 960  
 catagaaatg ggttgtaggc cacgtgtgga acagaggggg tcgtttactc tcctcccat  
 1020  
 aatggtagtt ttctagttca caaattccct tggtagttga agacagcttt tccattttca  
 1080  
 cctgtatttt ggtcaacca tccaagggtg cctgcagttc ctcacacagc ttctccagtt  
 1140  
 cctcgttata ttccagacac accttttctt cattttcctt cgaggctggg ctgctgctgt  
 1200  
 ctagtctat cttgtcttta ttcaataaac tgattttcaa gttggcaata ttatttgcag  
 1260  
 tggtaaaacc tgcattcattg agggtttccc acttcaggat taaattgtgc caatcagccg  
 1320  
 cattgtcctt aatttttctt gcactgacag ataagacagg ttttctgggc gttacagttc  
 1380  
 caagagtctt tgcttcata aggtccacag atatccgtag aaggagctgc tcctgaagcg  
 1440  
 cacggtggac aggtagctca gggtagggtc gcga  
 1474

&lt;210&gt; 4966

&lt;211&gt; 212

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4966

Met	Glu	Ala	Lys	Thr	Leu	Gly	Thr	Val	Thr	Pro	Arg	Lys	Pro	Val	Leu
1				5				10						15	
Ser	Val	Ser	Ala	Arg	Lys	Ile	Lys	Asp	Asn	Ala	Ala	Asp	Trp	His	Asn
			20					25					30		
Leu	Ile	Leu	Lys	Trp	Glu	Thr	Leu	Asn	Asp	Ala	Gly	Phe	Thr	Thr	Ala
		35					40					45			
Asn	Asn	Ile	Ala	Asn	Leu	Lys	Ile	Ser	Leu	Leu	Asn	Lys	Asp	Lys	Ile
	50					55					60				
Glu	Leu	Asp	Ser	Ser	Ser	Pro	Ala	Ser	Lys	Glu	Asn	Glu	Glu	Lys	Val
65					70				75					80	
Cys	Leu	Glu	Tyr	Asn	Glu	Glu	Leu	Glu	Lys	Leu	Cys	Glu	Glu	Leu	Gln
			85					90						95	
Ala	Thr	Leu	Asp	Gly	Leu	Thr	Lys	Ile	Gln	Val	Lys	Met	Glu	Lys	Leu
		100					105						110		
Ser	Ser	Thr	Thr	Lys	Gly	Ile	Cys	Glu	Leu	Glu	Asn	Tyr	His	Tyr	Gly
		115				120						125			
Glu	Glu	Ser	Lys	Arg	Pro	Pro	Leu	Phe	His	Thr	Trp	Pro	Thr	Thr	His
	130					135					140				
Phe	Tyr	Glu	Val	Ser	His	Lys	Leu	Leu	Glu	Met	Tyr	Arg	Lys	Glu	Leu
145					150				155					160	
Leu	Leu	Lys	Arg	Thr	Val	Ala	Lys	Glu	Leu	Ala	His	Thr	Gly	Asp	Pro

```

                165                170                175
Asp Leu Thr Leu Ser Tyr Leu Ser Met Trp Leu His Gln Pro Tyr Val
                180                185                190
Glu Ser Asp Ser Arg Leu His Leu Glu Ser Met Leu Leu Glu Thr Gly
                195                200                205
His Arg Ala Leu
                210

```

<210> 4967  
 <211> 550  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4967
nnnttggttta tttattcatt tatttgagag accgggtctc actctgtcat ccaggctgga
60
atgctgtggc acaattatag ctactgcag cctcgaactc ctggcctcaa gcaatccttc
120
cgccttgacc tccaaaatag ctggngttac acgcgtgagc ccccatgccc agcttcccag
180
taagacattt attctgagga gttggctcac atgagtaagg aggctgagaa gttccacaat
240
ctgaacattc aggagaaagc tggatgatga atttggtctg agtcccaatg cctgagaacc
300
agagaagccg atggtataaa tcccagtga aaggcaggag aagacccatg tccagctca
360
gaaggcaggc aggaagcaaa aggggcaaat ttctccgtcc tctgcctctt tttttctat
420
tcaggctctc agaggcttgg atgatgtcca ttcacattgg gcagggctag gtacttttct
480
gagtcaccg actgaaatac taatctcatc cagaaacacc tgcacagaca cacaaataaa
540
tgtttaattc
550

```

<210> 4968  
 <211> 51  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4968
Glu Thr Gly Ser His Ser Val Ile Gln Ala Gly Met Leu Trp His Asn
1      5      10      15
Tyr Ser Ser Leu Gln Pro Arg Thr Pro Gly Leu Lys Gln Ser Phe Arg
20      25      30
Leu Asp Leu Gln Asn Ser Trp Xaa Tyr Thr Arg Glu Pro Pro Cys Pro
35      40      45
Ala Ser Gln
50

```

<210> 4969  
 <211> 2911  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 4969

ccaanntcac tttctaccct gagccctacc cgctcgtcta tggccccag ctccttgccg  
60  
cctaccctta caacttcagt aacttggccg ctcccggttg ctctcaacat ggtcctacct  
120  
gatgagaagg gtgcgggggc ccttcccttc ctaccagggg tctttggcta cgcagtgaat  
180  
cctcaagcag cccccctgc cccaccaaca ccacctcccc caactcttcc tccaccaatt  
240  
ccccctaagg gagaagggga aagggcaggg gttgagagaa cccagaaggg cgatgtgggg  
300  
ntgaaccctg gggctcaatc cccctttcac cagatgccac cctccctgaa cccccacca  
360  
ctaccagctc cctggcctcc ctgccccttg ggagccccct cacactcttg tgcagggact  
420  
tgggggcccc tggagctcag gggtcaggct gctttgtgtg agatgtagtt tccccatctc  
480  
ctgggaaggg atctttcgag gttccctct cagtcttct ccagggaatg gcctccatga  
540  
ggggcagggc cagcttccat ccttctcca gcccttgggg caactgagca atatacttaa  
600  
cctgaatctc tactcacagc ccccaccagc tctgaatgtc taacctgtc cctgattcg  
660  
taaacctagg ggaaaccatc tctctcacct aatgaccgc cttgttctga agctttctct  
720  
aagcccttcc cagttgcttc ctagcacatt ccattctttg tggcccaggg ctggaccaga  
780  
ccattgtgat acctgacccc gccacctgg gagtgtggct ttgggtttca tcttcccca  
840  
gcgtgggtct ctacgtccct gtttcccttg tatcaagaca ccttccctcag cttccatgcc  
900  
tttggatctt ccatgttct ccccatattc ctggacttcg gagatggcct ctcccaaggc  
960  
aggtaaggga ggtttggggg agggttgcc ctctgcccct ctgttctgtg gctgagcact  
1020  
tcccagtc agggcaggga aatattggcc ctatcttgac ccccaaacc agtgagctcc  
1080  
agattcttcc aaggcaaaag aggtaagcag atcacacctc tttctgcctc tacatatggc  
1140  
ctattctggg ctagaccaga tttggggggc aggaggggaag aactccatat gggatggaga  
1200  
agggaatcta ctttctccct gttttttttt cctgatgggt tctcccagac tagaccaa  
1260  
agccagaaaa atgatagggg tcggatgggt gggtaagccc aggatttgca catgacctc  
1320  
cctccttacc tgtattccca tctccccagt gtcactcccc tcaccaatca ctccagatgg  
1380  
ttttggggga accattctac tcttctgggt ggctttgggg tatccccacc aactttccct  
1440  
tcaaaatagc accttacacc ccatctttga ctcagttccc cacacccaaa gatccagcc  
1500  
tagggatggg gtacaggggc tttaaatagt cctaateccc taatttgac tagttaacc  
1560

tggtcagggg cctgtatatt ccttccagtg ggggagataa atgtttgctc ctaattctct  
1620  
ttgaaaactg ggctccctg ctctgtgatt ggataaatat ttcccatccc acccacctcc  
1680  
ccccaaaaa tagctcacia ggggagagcc agtatggggg agcaaatttg acaaatggga  
1740  
attagaggag tgcagtttta aaaggaaaag ttgctgtcat caaatggca gccttttccc  
1800  
cagctactgt ttttggggcc aagatggctg ccctagcagc aatcactgcc aagggaaga  
1860  
tcattggctt tggagggagg tgagtttagg gagggccagg accatcctcc taccctcat  
1920  
accctcccag catatacaaa aggggaggtt ttagacaggc tccctgaatg ttaaccacag  
1980  
aggagtcact ccttcattcc tcctctgtct ctttgcactt ttcttggctt tggccacagc  
2040  
ctgagtgcag aatttcctac tgaatgtacc aagttccaat ttttaagggg gggaaagggt  
2100  
tcaaattggg aaaaacacac aaaaaaaaaa tctaataaaa tcccacaaa tcttgtttct  
2160  
ggcacttttag aaaaactgca aaaaaatacg taataaagaa tacatatata tatatctaca  
2220  
caciaaattat atatctatct atctatacag cggaaccaca agagagactg aggaaggcct  
2280  
ggaggcaggg gcagaggtga cgacagtgcc cctatatcct taaccatac tcctctgagg  
2340  
caaacaggca tgggaaaatg gaagggttga ggatggaccg gagaattgga acttcagaat  
2400  
aggtaaaaat tccaaaacca tggacatttt tttttgggag aattgagatt gtagacattt  
2460  
tttttttctt aaatatgac aaggaaaata gcttccagaa tgttgtgtgt ctgggcaaca  
2520  
aatgagattg tggcgacgtg gagattaaaa tatatgtatt tgagctgggg aatttgaata  
2580  
ttgtgagttt cagatgttgg aaatttggga ttttgcagtt ttgtcttttg aaaatgatca  
2640  
agtcttgtca gtctgtgccc tctttcccca tggtccctgg gaagacgggt ggtggcagag  
2700  
tgagaaggcc actggttctg tgccgcagca cgcaaaattt agaattctac agactagctc  
2760  
tatacgtagt gaggaccag atttagagaa actgaccaat atttatctcc gcatttgtgt  
2820  
gtgtgtccaa ctctgtaggc caataaacca acaagacaaa tgaactgtgc tccccaaaaa  
2880  
aaaaaaaaa aatgtctaca atctcaattc t  
2911

&lt;210&gt; 4970

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4970

Pro Xaa Ser Leu Ser Thr Leu Ser Pro Thr Arg Ser Ser Met Ala Pro

1	5	10	15
Ser Ser Leu Pro Pro Thr Leu Thr Thr Ser Val Thr Trp Pro Leu Pro			
20	25	30	
Val Ala Leu Asn Met Val Leu Pro Asp Glu Lys Gly Ala Gly Ala Leu			
35	40	45	
Pro Phe Leu Pro Gly Val Phe Gly Tyr Ala Val Asn Pro Gln Ala Ala			
50	55	60	
Pro Pro Ala Pro Pro Thr Pro Pro Pro Pro Thr Leu Pro Pro Pro Ile			
65	70	75	80
Pro Pro Lys Gly Glu Gly Glu Arg Ala Gly Val Glu Arg Thr Gln Lys			
85	90	95	
Gly Asp Val Gly Xaa Asn Pro Gly Ala Gln Ser Pro Phe His Gln Met			
100	105	110	
Pro Pro Ser Leu Asn Pro Pro Pro Leu Pro Ala Pro Trp Pro Pro Cys			
115	120	125	
Pro Leu Gly Ala Pro Ser His Ser Cys Ala Gly Thr Trp Gly Pro Leu			
130	135	140	
Glu Leu Arg Gly Gln Ala Ala Leu Cys Glu Met			
145	150	155	

&lt;210&gt; 4971

&lt;211&gt; 2939

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4971

gaagaacctc gtctgcggag gaaaaggtag atgttaaata gtaactacgc gcgaggttct  
 60  
 gaggagccct gggaacagga aggagaaaag aataccaaaa gtgacaacag ttgccaatc  
 120  
 gcagtcttta atctgataaa gcggttatct cgtcttgagt ccaggtgcc gagtcaatcc  
 180  
 ccatacacag ccgccgccat tgcctcgagt ccttggtgtt gactgtctgt tctgtctgt  
 240  
 gtatgacaca gcacctcgag gcaaggaaat aagaaaactg cctctgatcc aagcagagaa  
 300  
 ggtagtgag aaggtctgcc ttagatctg cttagaggct tgcaccatt ggaagcaagg  
 360  
 tctacttca gtggcagatc tgggtggcct ggagtggctg aagaccacca cctccacag  
 420  
 ggctgggccc atgcacagcc atccttcctt accttgagtg agcttctct gcatgttttc  
 480  
 tatatcactg gcagagcctg tagttggaaa ggggacagag tgactactgg actttgtgtg  
 540  
 aaaacaccaa ccgggacaaa acttcagtca aggctgagac ggggtgggggt atataacttg  
 600  
 tcttacggt aaacttgga catggttgac tctgggacag aagcaagggc tagaggaaag  
 660  
 gctgaggctg gctgcaaga tggaatcagt ggtcctgcca ctgctagagt gaatggtaaa  
 720  
 acccaggccg aggcagtggc tgaggcagaa ctgaaaacag aatcagtgc ccaggccaaa  
 780  
 gctggtgatg gagcaatgac caggacacat acagtgcct acagggaggc tatggctgtg  
 840

acaaggggaag tgatcaaggt ggaagatata actaagacta gagtcatggt tgagactaag  
900  
acaaaacccc tggcagaacg cagtatatgt ccacaaacca agtcaaaggc catgcctatg  
960  
tctaggggtca gtactgtaac caagtctgaa gtcaagggtg ttgctgtcat tgaggcaaat  
1020  
attaggtcct atgccaaagtc acatgataag gccaatactg ggtccagacc tgacagaagg  
1080  
gaagagacca gcattgggat gaaatccagt gatgaggatg aagaaaatat atgctcctgg  
1140  
ttctggactg gagaagagcc tagtgtaggg tcttggttct ggctgaaga agagacctct  
1200  
cttcaagttt ataagccctt acctaagatc caggaaaagc ccaagcccac acacaaaccc  
1260  
acacttacta taaaacaaaa ggtaatagca tggtaagggt ccaggatatat tgcctagtt  
1320  
ccagttgaag gaggggagca atccttgctt ccagaaggaa actggaccct ggttgagacc  
1380  
ttgattgaaa ctctctctgg gattcgacct ttgaccaaga tcccacctta tcatgggctt  
1440  
tattaccaga ccttagctga gatcaaaaaa cagattaggc aaagggaata gtatgggctt  
1500  
aatccgaagg cctgccactg caaatcacgt ggctttagtt tagagcctaa agagtttgat  
1560  
aaacttggtt cctcctctaa gttaactaag gatcctttca ttcattgaaat agctacaatg  
1620  
ataatgggca tcagtcctgc ttatccattt actcaagata taattcatga tgtaggtatt  
1680  
actgttatga ttgaaaactt ggtcaataat cccaatgtta aagaacaccc tggagcttta  
1740  
agtatggtgg atgacagctc tgagtcttcc gaagaaccaa aatcagggga gtcatatata  
1800  
catcaagttt gtaaaggcat aatctcttgc cccttgaact cccctgtgca gctggctgga  
1860  
ctgaaattac tagggcactt gagtataaaa tttgaagatc actatgtgat taccagttat  
1920  
attccagatt tcttcacctt gttaaacaaag ggaagtgtca aaaccaagtt ttatgtttta  
1980  
aaagtgtttt cgtgtttgtc taaaaatcac gccaatataa gagaattgat cagtgccaaa  
2040  
gtactgtcat cattgggtgc accctttaac aagaatgagt caaaggccaa tattcttaat  
2100  
attattgaaa tatttgagaa tataaatttt cagttcaaaa caaaggcaaa gctattttacc  
2160  
aaggaaaagt tcactaaatc tgagcttatt tcaatattcc aggaagcaaa acagtttggt  
2220  
cagaaactcc aagacttagc agagcacagt gatcccgaag tgagagataa agtcatacga  
2280  
ttaatactaa aactctgaat acccctctgt tctcataaag cctcaaacag ttttttgag  
2340  
ttgcaatatg aaaccaatgc atattgtaat tataaattca atacttatgt tttccatgtt  
2400  
gattgaggga ggcaatttta tggataccaa ttaatcttga gatcctgaac atgtgctgat  
2460



ttttattgtg ctatatagta tataaattga gatatttttg gtatttctgc aacgtgacct  
 2520  
 gataatgaat ctattcatcc tgagtaagct atacttctgt gctttatatt gatatgtgta  
 2580  
 ttcttttgag attttattta catgttggtta ataaagttgc atgctaaaac tggtgaaaat  
 2640  
 attgtcctag ttcttcagct gaaatctagt ctgggggggat aaagcacaga gagcataaag  
 2700  
 atggtgaaga acaactgctg tgtgtctgta gtggggcaca aacaaaacaa gttcacattg  
 2760  
 acagattatt tagtttcgac atacttaaaa agtagaatca ctctatgcaa gaaggcagga  
 2820  
 ctgtgctatt agttgtctgt aggctcctac tgatagggtt tcaaagagg aatgaagccc  
 2880  
 tatctgggca gctctgggga agggagtaag gaggaaggga atacagatgc tttcattgt  
 2939

&lt;210&gt; 4972

&lt;211&gt; 558

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4972

Met	Val	Asp	Ser	Gly	Thr	Glu	Ala	Arg	Ala	Arg	Gly	Lys	Ala	Glu	Ala
1				5					10					15	
Gly	Leu	Gln	Asp	Gly	Ile	Ser	Gly	Pro	Ala	Thr	Ala	Arg	Val	Asn	Gly
			20					25					30		
Lys	Thr	Gln	Ala	Glu	Ala	Val	Ala	Glu	Ala	Glu	Leu	Lys	Thr	Glu	Ser
			35				40					45			
Val	Thr	Gln	Ala	Lys	Ala	Gly	Asp	Gly	Ala	Met	Thr	Arg	Thr	His	Thr
			50			55					60				
Val	Thr	Tyr	Arg	Glu	Ala	Met	Ala	Val	Thr	Arg	Glu	Val	Ile	Lys	Val
65					70					75					80
Glu	Asp	Thr	Thr	Lys	Thr	Arg	Val	Met	Val	Glu	Thr	Lys	Thr	Lys	Pro
				85					90					95	
Leu	Ala	Glu	Arg	Ser	Ile	Val	Pro	Gln	Thr	Lys	Ser	Lys	Ala	Met	Pro
			100				105						110		
Met	Ser	Arg	Val	Ser	Thr	Val	Thr	Lys	Ser	Glu	Val	Lys	Val	Val	Ala
		115					120					125			
Val	Ile	Glu	Ala	Asn	Ile	Arg	Ser	Tyr	Ala	Lys	Ser	His	Asp	Lys	Ala
	130					135					140				
Asn	Thr	Gly	Ser	Arg	Pro	Asp	Arg	Arg	Glu	Glu	Thr	Ser	Ile	Gly	Met
145				150					155						160
Lys	Ser	Ser	Asp	Glu	Asp	Glu	Glu	Asn	Ile	Cys	Ser	Trp	Phe	Trp	Thr
			165					170						175	
Gly	Glu	Glu	Pro	Ser	Val	Gly	Ser	Trp	Phe	Trp	Pro	Glu	Glu	Glu	Thr
			180				185						190		
Ser	Leu	Gln	Val	Tyr	Lys	Pro	Leu	Pro	Lys	Ile	Gln	Glu	Lys	Pro	Lys
			195				200					205			
Pro	Thr	His	Lys	Pro	Thr	Leu	Thr	Ile	Lys	Gln	Lys	Val	Ile	Ala	Trp
	210					215						220			
Ser	Arg	Ala	Arg	Tyr	Ile	Val	Leu	Val	Pro	Val	Glu	Gly	Gly	Glu	Gln
225					230					235					240
Ser	Leu	Pro	Pro	Glu	Gly	Asn	Trp	Thr	Leu	Val	Glu	Thr	Leu	Ile	Glu

245 250 255  
 Thr Pro Leu Gly Ile Arg Pro Leu Thr Lys Ile Pro Pro Tyr His Gly  
 260 265 270  
 Pro Tyr Tyr Gln Thr Leu Ala Glu Ile Lys Lys Gln Ile Arg Gln Arg  
 275 280 285  
 Glu Lys Tyr Gly Pro Asn Pro Lys Ala Cys His Cys Lys Ser Arg Gly  
 290 295 300  
 Phe Ser Leu Glu Pro Lys Glu Phe Asp Lys Leu Val Ala Leu Leu Lys  
 305 310 315 320  
 Leu Thr Lys Asp Pro Phe Ile His Glu Ile Ala Thr Met Ile Met Gly  
 325 330 335  
 Ile Ser Pro Ala Tyr Pro Phe Thr Gln Asp Ile Ile His Asp Val Gly  
 340 345 350  
 Ile Thr Val Met Ile Glu Asn Leu Val Asn Asn Pro Asn Val Lys Glu  
 355 360 365  
 His Pro Gly Ala Leu Ser Met Val Asp Asp Ser Ser Glu Ser Ser Glu  
 370 375 380  
 Glu Pro Lys Ser Gly Glu Ser Tyr Ile His Gln Val Cys Lys Gly Ile  
 385 390 395 400  
 Ile Ser Cys Pro Leu Asn Ser Pro Val Gln Leu Ala Gly Leu Lys Leu  
 405 410 415  
 Leu Gly His Leu Ser Ile Lys Phe Glu Asp His Tyr Val Ile Thr Ser  
 420 425 430  
 Tyr Ile Pro Asp Phe Leu Thr Leu Leu Asn Lys Gly Ser Val Lys Thr  
 435 440 445  
 Lys Phe Tyr Val Leu Lys Val Phe Ser Cys Leu Ser Lys Asn His Ala  
 450 455 460  
 Asn Thr Arg Glu Leu Ile Ser Ala Lys Val Leu Ser Ser Leu Val Ala  
 465 470 475 480  
 Pro Phe Asn Lys Asn Glu Ser Lys Ala Asn Ile Leu Asn Ile Ile Glu  
 485 490 495  
 Ile Phe Glu Asn Ile Asn Phe Gln Phe Lys Thr Lys Ala Lys Leu Phe  
 500 505 510  
 Thr Lys Glu Lys Phe Thr Lys Ser Glu Leu Ile Ser Ile Phe Gln Glu  
 515 520 525  
 Ala Lys Gln Phe Gly Gln Lys Leu Gln Asp Leu Ala Glu His Ser Asp  
 530 535 540  
 Pro Glu Val Arg Asp Lys Val Ile Arg Leu Ile Leu Lys Leu  
 545 550 555

&lt;210&gt; 4973

&lt;211&gt; 3555

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4973

gcgaggggtga caggaaaccc tgtgcaggga ggcgcccat cttggaccag cccgaggaag  
 60  
 atactgaggg agcacaggag cagtcaccgc tgccactgct actgccgcta ctgctgccgg  
 120  
 cgcgtctgca cctctcggcc tgccagtgtta cctgccggcg cctcggtcga ccgccccgc  
 180  
 cccctctccc gctgcgtccg cactcctgtt cctggctctg acgccccct cccgcccgga  
 240

aagctgcccc gccaccagca accccccagt gccaccatgg caactgcacc atacaactac  
300  
tcttacatct ttaaataatat tattattggg gacatgggag taggaaaatc ttgcttgctt  
360  
catcaattta cagaaaaaaaa atttatggct gattgtcctc acacaattgg tgttgaattt  
420  
ggtacaagaa taatcgaagt tagtggccaa aaaataaaac tgcagatttg ggatacggca  
480  
ggacaggagc gatttagggc tgttacacgg agctactaca gaggagctgc gggagctctt  
540  
atggtctatg atatcactag aagaagtaca tataaccact taagcagctg gttgacagat  
600  
gcaaggaatc tcaccaatcc aaatactgta ataattctca taggaaataa agcagatttg  
660  
gaggcacaga gagatgttac atatgaagaa gccaaacagt ttgctgaaga aaatggctta  
720  
ttgttcctcg aagcgagtgc aaaaacggga gagaatgtag aagatgcctt ccttgaggct  
780  
gccaaagaaa tctatcagaa cattcaggat ggaagcttgg atctgaatgc tgctgagctt  
840  
ggtgtacaac acaaaccttc agccccgcag ggaggccggc taaccagtga accccaaccc  
900  
cagagagaag gctgtggctg ctagtgacct ctttgccttg gccctcatt tgacctttca  
960  
cctctgtctg ttggaagcag tactttttac tgccctcattg tcttctgtac atcttactgg  
1020  
gtttaattaa aaaaaagaa aaaactctgt tgtaaaaaca gtttaacaca atactaaact  
1080  
gctaaacaac tagatgtaat caggttatca aaggcaagta gagtaataaa tctctcctgc  
1140  
atggtaaatc tagacttttt tcccccttg tctcgtgat aagtatgtca ccaatatatg  
1200  
atttaaaccg agcactgatg ctggaacttc tgatttttac cctcccttg gcaaggcttt  
1260  
gtctcactgt acggtttaat ttggtgatat ctttaagcctt tcttcccatc ctttaactgtt  
1320  
caagtatgtc tgttgtaacc aataagttta ttgctgtgaa attacttctg atggtagaga  
1380  
aggggttcta taactgcttt tgttttgttt tggataaatt tctgtttgtg tgggtggcat  
1440  
ttttcttaac gagatttgct tctgtcttag cctcacacag ggaaaatatc catttatctt  
1500  
ctctctctg cttaattaat agctttatct ttttttatac cattttatcc ttttctcttt  
1560  
aacagaaagt aaatatgtat aaaatttgaa ggaatcgaac taacaataca ttctgtgtat  
1620  
attattttta tgaagaaaat aaattgatta ctggcattgg aacagtataa aataccagtt  
1680  
tgtacagtat gacctatatg tgaccatgtt actcccttcc atttcacaca aagaaataga  
1740  
cacaactgca gttcacaagt agtactggct ccacccttg gtgctggcag tgtttgggga  
1800  
cattatgctg gaaagagctc ctagcatcag aggattaaca ctagcagatt ctgttccatc  
1860

tttgcaactgt tgcttacctg ctgattttct taactgttct tgtgcaatcg acaatgtgct  
1920  
aacctgcttt tctctttttg taaacgtttt tgcattacag gctgcattct tgccttactg  
1980  
tatagaaaaa gaaaaaaggc tgggtttact attgcacatt ttaagctttt atacctttat  
2040  
cttcttgga tggtcagatt ctgaactgga cagtcagaac cacaggctctg ctgttaaggg  
2100  
attttaaatt gtgcattttt aaccctacag tgaaataact taagatatcc ctgtgttcac  
2160  
agtgtgaggg gctgttttat gtcattgttg cataaattgt tttgtaaaag ggaaagtgtt  
2220  
tctaaagggtg tttcagcgct tgtgctgata caaagtaagt tattactttg caccagggtg  
2280  
tttggccact gaattaatac tgtatagcaa gagaaacaat cttatttttt tggacaacat  
2340  
gttttattaa gttcttcatt tctgttgatt ttttttattg catttatgat tcagtggctg  
2400  
ggaattgaga atttatttga aatagaatag gtaacacctc agcgtactat agaaaatgca  
2460  
ctcagctcaa ctgctgtgtt taaaatacac attttaaatc cctctttaca gacactaaca  
2520  
taaaagtaca tctttctggg ttgtaaacat gtggtagtag cagagtattg tatagtcaat  
2580  
gttaataaaa agccaaaact ggaatgtgca gaaagtaggc tttgggttaat ttgtggattc  
2640  
atttttattt ttgtctttgt ttaacttttt aaaaaataag atttctggag tagattggta  
2700  
tattctgtta aagacttaca gtgatccatt ttgcttacac tgttgcatca caagggactc  
2760  
accaggggac catgacctgc tgggtgtgtg gtatatattac aaaaacaaaa caaacaaacc  
2820  
accattggg atataaggta gcaatcacia actaaagact gcggcttggt gaggtgcaat  
2880  
accctgactc ccaaagttag ttacagtggg ttttattggt tttgtgactg aaggatttat  
2940  
tcagactgct gtactcttca tttgatgtaa caaatgcta ttaatctaaa tatttgtaaa  
3000  
taaagtacct gtatctagat taaattaaaa ttggttgcat tattttctga actataatag  
3060  
gggttttctt cagggtgaaca atttgacgtg tcatcagttt ttattgcagc actgtccata  
3120  
ttcattgtat aaagagaggt ctacgtatgt agcatataaa accacatcac taagtaatag  
3180  
accacagct ttattcttgt gtttacatta cccttgaaat gttttcagtc aaccttttc  
3240  
agtgtgaagat cagcacattt ggtggctgat gctgttctcc tttgactgta ccgggagcca  
3300  
gattctatca tatgcatgtg taatccctg taatacactc aggtgctcac aaatagagca  
3360  
gattgtcata ttgtaacatg cgtgtgccag acaccgggca gtacactttg gaaagaatgt  
3420  
gaaatccttt taatttttaa tccatagctt actgcttggt cagtcacctg cctctcgagg  
3480

ttgtctcattg cccttgacc tgtgaggagg ccctcagatt agtaattggt gcttagtact  
 3540  
 atttatgctt aaatg  
 3555

<210> 4974  
 <211> 215  
 <212> PRT  
 <213> Homo sapiens

<400> 4974  
 Met Ala Thr Ala Pro Tyr Asn Tyr Ser Tyr Ile Phe Lys Tyr Ile Ile  
 1 5 10 15  
 Ile Gly Asp Met Gly Val Gly Lys Ser Cys Leu Leu His Gln Phe Thr  
 20 25 30  
 Glu Lys Lys Phe Met Ala Asp Cys Pro His Thr Ile Gly Val Glu Phe  
 35 40 45  
 Gly Thr Arg Ile Ile Glu Val Ser Gly Gln Lys Ile Lys Leu Gln Ile  
 50 55 60  
 Trp Asp Thr Ala Gly Gln Glu Arg Phe Arg Ala Val Thr Arg Ser Tyr  
 65 70 75 80  
 Tyr Arg Gly Ala Ala Gly Ala Leu Met Val Tyr Asp Ile Thr Arg Arg  
 85 90 95  
 Ser Thr Tyr Asn His Leu Ser Ser Trp Leu Thr Asp Ala Arg Asn Leu  
 100 105 110  
 Thr Asn Pro Asn Thr Val Ile Ile Leu Ile Gly Asn Lys Ala Asp Leu  
 115 120 125  
 Glu Ala Gln Arg Asp Val Thr Tyr Glu Glu Ala Lys Gln Phe Ala Glu  
 130 135 140  
 Glu Asn Gly Leu Leu Phe Leu Glu Ala Ser Ala Lys Thr Gly Glu Asn  
 145 150 155 160  
 Val Glu Asp Ala Phe Leu Glu Ala Ala Lys Lys Ile Tyr Gln Asn Ile  
 165 170 175  
 Gln Asp Gly Ser Leu Asp Leu Asn Ala Ala Glu Ser Gly Val Gln His  
 180 185 190  
 Lys Pro Ser Ala Pro Gln Gly Gly Arg Leu Thr Ser Glu Pro Gln Pro  
 195 200 205  
 Gln Arg Glu Gly Cys Gly Cys  
 210 215

<210> 4975  
 <211> 1111  
 <212> DNA  
 <213> Homo sapiens

<400> 4975  
 aatataatct gttgtctgac aggcatttcc cagaccctct tgccctccagt gagaaggaga  
 60  
 acactcagcc ctttgtggtc ctgcccgaagg aattcccagt gtacctgtgg cagcccttct  
 120  
 tcagacacgg ctacttctgc ttccacgagg ctgctgacca gaagaggttt agtgccttcc  
 180  
 tgagtgactg cgtcaggcat ctcaatcatg attacatgaa gcagatgaca tttgaagccc  
 240

aggcctttttt agaagctgtg caattcttcc gacaggagaa gggtcactat ggttcctggg  
 300  
 aaatgatcac tggggatgaa atccagatcc tgagtaacct ggtgatggag gagctcctgc  
 360  
 ccactcttca gacagacctg ctgcctaaga tgaaggggaa gaagaatgac agaaagagga  
 420  
 cgtggccttg tctcctcgag gaggcctaca ccctgggttca gcatcaagtt tcagaaggat  
 480  
 taagtgcctt gaaggaggaa tgcagagctc tgacaaaggg cctggaagga acgatccgtt  
 540  
 ctgacatgga tcagattgtg aactcaaaga actatttaat tggaaagatc aaagcgatgg  
 600  
 tggcccagcc ggcggagaaa agctgcttgg agagtgtgca gccattcctg gcatccatcc  
 660  
 tggaggagct catgggacca gtgagctcgg gattcagtga agtacgtgta ctctttgaga  
 720  
 aagaggtgaa tgaagtcagc cagaacttcc agaccaccaa agacagtgtc cagctaaagg  
 780  
 agcatctaga ccggcttatg aatcttccgc tgcattccgt gaagatggaa ccttggtata  
 840  
 ctaaagtcaa cctgcttcac gagcgcctgc aggatctcaa gagccgcttc agattcccc  
 900  
 acattgatct ggtggttcag aggacacaga actacatgca ggagctaata gagaatgcag  
 960  
 tgttcacttt tgagcagttg ctttccccac atctccaagg agaggcctcc aaaactgcat  
 1020  
 tttccattga gaagggttaa ctcagagtct taaagcaata tgattatgac agcagcacca  
 1080  
 tccgaaagaa gatatttcaa gaggcactag t  
 1111

&lt;210&gt; 4976

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4976

Met	Lys	Gln	Met	Thr	Phe	Glu	Ala	Gln	Ala	Phe	Leu	Glu	Ala	Val	Gln
1				5				10						15	
Phe	Phe	Arg	Gln	Glu	Lys	Gly	His	Tyr	Gly	Ser	Trp	Glu	Met	Ile	Thr
		20					25					30			
Gly	Asp	Glu	Ile	Gln	Ile	Leu	Ser	Asn	Leu	Val	Met	Glu	Glu	Leu	Leu
		35				40					45				
Pro	Thr	Leu	Gln	Thr	Asp	Leu	Leu	Pro	Lys	Met	Lys	Gly	Lys	Lys	Asn
	50				55					60					
Asp	Arg	Lys	Arg	Thr	Trp	Leu	Gly	Leu	Leu	Glu	Glu	Ala	Tyr	Thr	Leu
65				70				75						80	
Val	Gln	His	Gln	Val	Ser	Glu	Gly	Leu	Ser	Ala	Leu	Lys	Glu	Glu	Cys
			85					90						95	
Arg	Ala	Leu	Thr	Lys	Gly	Leu	Glu	Gly	Thr	Ile	Arg	Ser	Asp	Met	Asp
		100					105						110		
Gln	Ile	Val	Asn	Ser	Lys	Asn	Tyr	Leu	Ile	Gly	Lys	Ile	Lys	Ala	Met
		115				120						125			
Val	Ala	Gln	Pro	Ala	Glu	Lys	Ser	Cys	Leu	Glu	Ser	Val	Gln	Pro	Phe

130	135	140
Leu Ala Ser Ile Leu Glu Glu Leu Met Gly Pro Val Ser Ser Gly Phe		
145	150	155
Ser Glu Val Arg Val Leu Phe Glu Lys Glu Val Asn Glu Val Ser Gln		160
	165	170
Asn Phe Gln Thr Thr Lys Asp Ser Val Gln Leu Lys Glu His Leu Asp		175
	180	185
Arg Leu Met Asn Leu Pro Leu His Ser Val Lys Met Glu Pro Cys Tyr		190
	195	200
Thr Lys Val Asn Leu Leu His Glu Arg Leu Gln Asp Leu Lys Ser Arg		205
	210	215
Phe Arg Phe Pro His Ile Asp Leu Val Val Gln Arg Thr Gln Asn Tyr		220
225	230	235
Met Gln Glu Leu Met Glu Asn Ala Val Phe Thr Phe Glu Gln Leu Leu		240
	245	250
Ser Pro His Leu Gln Gly Glu Ala Ser Lys Thr Ala Phe Ser Ile Glu		255
	260	265
Lys Val Lys Leu Arg Val Leu Lys Gln Tyr Asp Tyr Asp Ser Ser Thr		270
	275	280
Ile Arg Lys Lys Ile Phe Gln Glu Ala Leu		285
290	295	

&lt;210&gt; 4977

&lt;211&gt; 3309

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4977

```

nnaaaggaag ggagggaggg agaaaggaga agttggttta gaggccagcc ggacgagctt
60
tgggcaccgc ccttaggagg gccaccctca gagtctgaca gcaggtgaag gtcctaaatc
120
tccccaaact aactggtgtc tttctctctc ttccaagatg ctcttcccga gggagatgct
180
agccctttgg gtccttacct cctgccctca ggagccccgg agagaggcag tcctggcaaa
240
gagcaccctg aagagagagt ggtaacagcg cccccagtt cctcacagtc ggcggaagtg
300
ctgggcgagc tgggtgctgga tgggaccgca ccctctgcac atcacgacat cccagccctg
360
tcaccgctgc ttccagagga ggcccgcccc aagcacgcct tgcccccaa gaagaaactg
420
ccttcgctca agcaggtgaa ctctgccagg aagcagctga ggcccaaggc cacctccgca
480
gccactgtcc aaagggcagg gtcccagcca gcgtcccagg gcctagatct cctctcctcc
540
tccacggaga agcctggccc accggggggac ccggaccca tcgtggcctc cgaggaggca
600
tcagaagtgc ccctttggct ggaccgaaag gagagtgcgg tccctacaac acccgacccc
660
ctgcaaactc ccccttcac ttgcgagccc tatgtggccc acacactccc ccagaggcca
720
gaacccgggg agcctggggc tgacatggcc caggaggccc cccaggagga caccagcccc
780

```

atggccctga tggacaaagg tgagaatgag ctgactgggt cagcctcaga ggagagccag  
840  
gagaccacta cctccaccat tatcaccacc acggtcatca ccaccgagca ggcaccagct  
900  
ctctgcagtg tgagcttctc caatcctgag gggtagattg actccagcga ctaccactg  
960  
ctgcccctca acaactttct ggagtgcaca tacaacgtga cagtctacac tggctatggg  
1020  
gtggagctcc aggtgaagag tgtgaacctg tccgatgggg aactgctctc catccgcggg  
1080  
gtggacggcc ctaccctgac cgtcctggcc aaccagacac tcctgggtgga ggggcaggta  
1140  
atccgaagcc ccaccaacac catctccgtc tacttccgga ccttccagga cgacggcctt  
1200  
gggaccttcc agcttcaacta ccaggccttc atgctgagct gcaactttcc ccgccggcct  
1260  
gactctgggg atgtcacggg gatggacctg cactcagggt ggggtggccca ctttcaactgc  
1320  
cacctgggct atgagctcca gggcgctaag atgctgacat gcatcaatgc ctccaagccg  
1380  
cactggagca gccaggagcc catctgctca gctccttggt gaggggcagt gcacaatgcc  
1440  
accatcggcc gcgtcctctc cccaagttac cctgaaaaca caaatgggag ccaattctgc  
1500  
atctggacga ttgaagctcc agagggccag aagctgcacc tgcactttga gaggtgtgtg  
1560  
ctgcatgaca aggacaggat gacgggtcac agcgggcaga ccaacaagtc agctcttctc  
1620  
tacgactccc ttcaaaccga gagtgtccct tttgagggcc tgctgagcga aggcaacacc  
1680  
atccgcatcg agttcacgtc cgaccaggcc cgggcggcct ccaccttcaa catccgattt  
1740  
gaagcgtttg agaaaggcca ctgctatgag ccctacatcc agaatgggaa cttcactaca  
1800  
tccgacctga cctataacat tgggactata gtggagttca cctgcgaccc cggccactcc  
1860  
ctggagcagg gcccgcccat catcgaatgc atcaatgtgc gggaccata ctggaatgac  
1920  
acagagcccc tgtgcagagc catgtgtggt ggggagctct ctgctgtggc tggggtggta  
1980  
ttgtcccaa actggcccga gccctaegtg gaaggtgaag attgtatctg gaagatccac  
2040  
gtgggagaag agaaacggat cttcttagat atccagttcc tgaatctgag caacagtgc  
2100  
atcttgacca tctacgatgg cgacgaggtc atgccccaca tcttggggca gtaccttggg  
2160  
aacagtggcc ccagaaact gtactcctcc acgccagact taaccatcca gttccattcg  
2220  
gacctgctg gcctcatctt tggaaagggc cagggtttta tcatgaacta catagaggta  
2280  
tcaaggaatg actcctgctc ggattttacc gagatccaga atggctggaa aaccattct  
2340  
cacacggagt tgggtcgggg agccagaatc acctaccagt gtgaccccg ctatgacatc  
2400



gtggggagtg acaccctcac ctgccagtgg gacctcagct ggagcagcga cccccattt  
 2460  
 tgtgagaaaa ttatgtactg caccgacccc ggagaggtgg atcactcgac ccgcttaatt  
 2520  
 tcggatcctg tgctgctggt ggggaccacc atccaataca cctgcaaccc cggttttgtg  
 2580  
 cttgaaggga gttctcttct gacctgctac agccgtgaaa cagggactcc catctggacg  
 2640  
 tctcgctgc cccactgcgt ttcggaggag tccctggcat gtgacaaccc agggctgcct  
 2700  
 gaaaatggat accaaatcct gtacaagcga ctctacctgc caggagagtc cctcaccttc  
 2760  
 atgtgctacg aaggctttga gctcatgggt gaagtgacca tccgctgcat cctgggacag  
 2820  
 ccattccact ggaacggggc cctgcccgtg tgtaaagtta atcaagacag ttttgaacat  
 2880  
 gctttagaag cagaagcggc agcagagacg tgcgtggaag gggggaacat ggccctggct  
 2940  
 atcttcatcc cggtcctcat catctcctta ctgctgggag gagcctacat ttacatcaca  
 3000  
 agatgtcgct actattccaa cctccgcctg cctctgatgt actcccaccc ctacagccag  
 3060  
 atcacctggt aaaccgagtt tgacaacccc atttacgaga cagggggaac ccaaaagggt  
 3120  
 tagggtttca tttaaaaaga ggtacccttt aaaaaggggc ttgtgaactc aacccaatt  
 3180  
 tccccgagac atttatccaa aggcctggg ggccttgatt taaaccccca aaaggcggct  
 3240  
 gttttttggt taaacttttt aacaaagggt tacgggtttt ttccccggat tttataaatt  
 3300  
 ttaaaagtg  
 3309

&lt;210&gt; 4978

&lt;211&gt; 792

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4978

Met	Ala	Gln	Glu	Ala	Pro	Gln	Glu	Asp	Thr	Ser	Pro	Met	Ala	Leu	Met
1				5					10					15	
Asp	Lys	Gly	Glu	Asn	Glu	Leu	Thr	Gly	Ser	Ala	Ser	Glu	Glu	Ser	Gln
			20					25						30	
Glu	Thr	Thr	Thr	Ser	Thr	Ile	Ile	Thr	Thr	Thr	Val	Ile	Thr	Thr	Glu
			35				40						45		
Gln	Ala	Pro	Ala	Leu	Cys	Ser	Val	Ser	Phe	Ser	Asn	Pro	Glu	Gly	Tyr
			50				55				60				
Ile	Asp	Ser	Ser	Asp	Tyr	Pro	Leu	Leu	Pro	Leu	Asn	Asn	Phe	Leu	Glu
65					70				75					80	
Cys	Thr	Tyr	Asn	Val	Thr	Val	Tyr	Thr	Gly	Tyr	Gly	Val	Glu	Leu	Gln
			85					90						95	
Val	Lys	Ser	Val	Asn	Leu	Ser	Asp	Gly	Glu	Leu	Leu	Ser	Ile	Arg	Gly
			100					105					110		
Val	Asp	Gly	Pro	Thr	Leu	Thr	Val	Leu	Ala	Asn	Gln	Thr	Leu	Leu	Val

BNSDOCID: <WO\_\_\_\_\_0058473A2 I >

545					550						555				560
Gln	Trp	Asp	Leu	Ser	Trp	Ser	Ser	Asp	Pro	Pro	Phe	Cys	Glu	Lys	Ile
				565					570					575	
Met	Tyr	Cys	Thr	Asp	Pro	Gly	Glu	Val	Asp	His	Ser	Thr	Arg	Leu	Ile
			580					585					590		
Ser	Asp	Pro	Val	Leu	Leu	Val	Gly	Thr	Thr	Ile	Gln	Tyr	Thr	Cys	Asn
		595					600					605			
Pro	Gly	Phe	Val	Leu	Glu	Gly	Ser	Ser	Leu	Leu	Thr	Cys	Tyr	Ser	Arg
	610					615					620				
Glu	Thr	Gly	Thr	Pro	Ile	Trp	Thr	Ser	Arg	Leu	Pro	His	Cys	Val	Ser
625					630					635					640
Glu	Glu	Ser	Leu	Ala	Cys	Asp	Asn	Pro	Gly	Leu	Pro	Glu	Asn	Gly	Tyr
			645						650					655	
Gln	Ile	Leu	Tyr	Lys	Arg	Leu	Tyr	Leu	Pro	Gly	Glu	Ser	Leu	Thr	Phe
		660					665						670		
Met	Cys	Tyr	Glu	Gly	Phe	Glu	Leu	Met	Gly	Glu	Val	Thr	Ile	Arg	Cys
		675					680					685			
Ile	Leu	Gly	Gln	Pro	Ser	His	Trp	Asn	Gly	Pro	Leu	Pro	Val	Cys	Lys
	690					695					700				
Val	Asn	Gln	Asp	Ser	Phe	Glu	His	Ala	Leu	Glu	Ala	Glu	Ala	Ala	Ala
705					710					715					720
Glu	Thr	Ser	Leu	Glu	Gly	Gly	Asn	Met	Ala	Leu	Ala	Ile	Phe	Ile	Pro
			725						730					735	
Val	Leu	Ile	Ile	Ser	Leu	Leu	Leu	Gly	Gly	Ala	Tyr	Ile	Tyr	Ile	Thr
		740						745					750		
Arg	Cys	Arg	Tyr	Tyr	Ser	Asn	Leu	Arg	Leu	Pro	Leu	Met	Tyr	Ser	His
		755				760						765			
Pro	Tyr	Ser	Gln	Ile	Thr	Val	Glu	Thr	Glu	Phe	Asp	Asn	Pro	Ile	Tyr
	770					775					780				
Glu	Thr	Gly	Gly	Thr	Gln	Lys	Val								
785					790										

&lt;210&gt; 4979

&lt;211&gt; 1865

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4979

gaccgcgagg cgcagcccgg cagtcggcgg cgcgccgagg gcggaggtgg tgcgtgcgtg  
60  
cgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tggagctcgg gtgccaaagg  
120  
cgagccgtca gtccccgggt gcgagtcctt gctgtcttcc acacccttcc tccctccagg  
180  
ctcctttcct acatccttcc cgcgccccca cggttgcgga ccgagcgaga acccccttaa  
240  
gcaggtgtgg ggggcgtgcg ggggtggcacg agacaaaagg ggcacggggg taagcccgcc  
300  
atggcctccc ggagcctggg gggcctgagc gggatccgcg gcggtggcgg cggaggcggc  
360  
aagaaaagcc tgagcgcccc caatgctgcg gtggagagga ggaacctgat caccgtgtgc  
420  
aggttttctg tgaagaccct gattgatcgg tcttgctttg agacaattga tgattcttct  
480

cctgaattta acaattttgc agctattttg gaacagattt taagccaccg gctaaaaggt  
540  
caagtaacct ggtttggtta tgaaagtcct cgtagcttct gggactatat cagagtggct  
600  
tgccggaaag tttcacagaa ttgtatctgc agcattgaaa atatggaaaa tgtcagttct  
660  
tctagagcta agggtagagc ctggatcaga gtagcactca tggaaaaaca tttatctgaa  
720  
tacatctcta cagctctgag agacttcaaa acaaccagga gattttatga agatggagca  
780  
attgtcttgg gtgaagaagc aaatatgctt gctggcatgc ttctaggact caatgctatt  
840  
gatttcagtt tctgcctaaa gggagagggg ctggatggca gttttcctgc tgtaatagac  
900  
tatacaccat atttgaagta tatccaaagt tctgatagta tcagcagtga tgaggaggag  
960  
ctaaggactt tgggaagcag tggtagcgaa agcagtactc cagagaatgt cggacctcct  
1020  
ttcctcatgg atgagaacag ttggttcaac aagtgtgaaga gagttaaaca aaagtatcag  
1080  
cttaccctgg aacagaaggg ttaccttgaa gaactcttac gacttcgaga gaaccaacta  
1140  
tctgaatctg tctcccagaa taaaatacta cttcaaagga ttgaagattc cgatctggct  
1200  
cataaactgg agaaggaaca attagaatat ataattgtgg agcttcaaga tcagctgact  
1260  
gtgctaaga ataatgattt aagatcgaga caagagttaa ctgcccattc caccaaccag  
1320  
tggccttctc caggagctct ggatgtcaat gctgttgctt tggatacggt gctttaccga  
1380  
aaacacaata aacagtggaa aagttatcaa agtcttgacc agttatcagc agaagtttagc  
1440  
ctttctcaga cttcactaga tccaggccag tcacaagaag gagatggaaa acaagacaca  
1500  
ttaaatgtaa tgagtgaagg taaggaagat actccctcat tacttggcct ctgtggatct  
1560  
ctaacgtcag tggcaagtta caagtctcta acaagcttaa aatctaata gaatcccctc  
1620  
agtcctacaa cagagatgac aagtccaggc ctaactccat cctgaaaatt tttgtgtaaa  
1680  
agccaaaact ttttatgttg taaatgttta atttacatgt ttgactgctg ggaagacctt  
1740  
tgaaatttta tattgttctg gtacatgtct gaaattctat tgcttggaga gaatcccctc  
1800  
cagataagag attttgagtg aaaaacataa tgatcctgcc atttttcatt tttaaaattc  
1860  
ttaca  
1865

&lt;210&gt; 4980

&lt;211&gt; 266

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4980

Glu Gly Leu Asp Gly Ser Phe Pro Ala Val Ile Asp Tyr Thr Pro Tyr  
 1 5 10 15  
 Leu Lys Tyr Ile Gln Ser Ser Asp Ser Ile Ser Ser Asp Glu Glu Glu  
 20 25 30  
 Leu Arg Thr Leu Gly Ser Ser Gly Ser Glu Ser Ser Thr Pro Glu Asn  
 35 40 45  
 Val Gly Pro Pro Phe Leu Met Asp Glu Asn Ser Trp Phe Asn Lys Cys  
 50 55 60  
 Lys Arg Val Lys Gln Lys Tyr Gln Leu Thr Leu Glu Gln Lys Gly Tyr  
 65 70 75 80  
 Leu Glu Glu Leu Leu Arg Leu Arg Glu Asn Gln Leu Ser Glu Ser Val  
 85 90 95  
 Ser Gln Asn Lys Ile Leu Leu Gln Arg Ile Glu Asp Ser Asp Leu Ala  
 100 105 110  
 His Lys Leu Glu Lys Glu Gln Leu Glu Tyr Ile Ile Val Glu Leu Gln  
 115 120 125  
 Asp Gln Leu Thr Val Leu Lys Asn Asn Asp Leu Arg Ser Arg Gln Glu  
 130 135 140  
 Leu Thr Ala His Leu Thr Asn Gln Trp Pro Ser Pro Gly Ala Leu Asp  
 145 150 155 160  
 Val Asn Ala Val Ala Leu Asp Thr Leu Leu Tyr Arg Lys His Asn Lys  
 165 170 175  
 Gln Trp Lys Ser Tyr Gln Ser Leu Asp Gln Leu Ser Ala Glu Val Ser  
 180 185 190  
 Leu Ser Gln Thr Ser Leu Asp Pro Gly Gln Ser Gln Glu Gly Asp Gly  
 195 200 205  
 Lys Gln Asp Thr Leu Asn Val Met Ser Glu Gly Lys Glu Asp Thr Pro  
 210 215 220  
 Ser Leu Leu Gly Leu Cys Gly Ser Leu Thr Ser Val Ala Ser Tyr Lys  
 225 230 235 240  
 Ser Leu Thr Ser Leu Lys Ser Asn Asp Tyr Leu Ala Ser Pro Thr Thr  
 245 250 255  
 Glu Met Thr Ser Pro Gly Leu Thr Pro Ser  
 260 265

&lt;210&gt; 4981

&lt;211&gt; 1902

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4981

ngtcccacag ccaggacatc agccacagtgc ccggtcctgt gcctcctggc catcatcttc  
 60  
 atcctcaccg cagccctttc ctatgtgctg tgcaagagga ggaggggggca gtcaccgcag  
 120  
 tcctctccag atctgccggt tcattatata cctgtggcac ctgactctaa tacctgagcc  
 180  
 aagaatggaa gtttgtgagg agacggactc tatgttgccc aggctgttat ggaactcctg  
 240  
 agtcaagtga tcctcccacc ttggcctctg aagggtgcgag gattataggc gtcacctacc  
 300  
 acatccagcc tacacgtatt tgtaatatc taacatagga ctaaccagcc actgccctct  
 360

cttaggcccc tcatttaaaa acggttatac tataaaatct gcttttcaca ctgggtgata  
420  
ataacttggga caaattctat gtgtattttg ttttggtttg ctttgctttg ttttgagacg  
480  
gagtctcgct ctgtcatcca ggctggagtg cagtggcatg atctcggctc actgcaaccc  
540  
ccatctccca ggttcaagcg attctcctgc ctctcctaa gtagctggga ctacaggtgc  
600  
tcaccaccac acccggttaa tttttgtatt tttagtagag acgggggttc accatgttga  
660  
ccaggctggg ctcgaaactc tgacctgggtg atctgccac ccaggcctcc caaagtgtctg  
720  
ggattaaagg tgtgagccac catgcctggc cctatgtgtg ttttttaact actaaaaatt  
780  
atttttgtaa tgattgagtc ttctttatgg aaacaactgg cctcagccct tgccgccctta  
840  
ctgtgattcc tggcttcatt ttttgctgat ggttccccct cgteccaaat ctctctccca  
900  
gtacaccagt tgttctctcc ccacctcage cctctcctgc atctcctgt acccgcaacg  
960  
aaggcctggg ctttccacc ctccctcctt agcaggtgcc gtgctgggac accatacggg  
1020  
ttggtttcac ctctcagtc cttgcctac ccagtgaga gtctgatctt gtttttattg  
1080  
ttattgcttt tattattatt gcttttatta tcattaaaac tctagttctt gttttgtctc  
1140  
tccgaatgaa gaagtatgta ttttcattag gccaaagtctg cgggaaggct ggggcagcag  
1200  
catgaagtgt ttgaggaagt gggttgggta tgtcagtttc catctcctct ctgagcctgt  
1260  
cagggtgttt ctggagtgc gagcaggagc accctgctgg agaggccaag gcatagctgt  
1320  
gggcaggctc gggcttcagt ttttccatgc ccaccatttg cccctttgtc ctaggggtact  
1380  
ttgaccagca gggatatgtg gtgctcatac tccccaccct acatgttccc aggttctgtc  
1440  
ccatggcaca ggtgatggc tccctctcag ctctgggtcc atctcctgg cctagtctc  
1500  
cagcatctgc tcacaggttc gagccacatc actgagcttg aggcgggcat agtccactcg  
1560  
cttcagagcc atctgacagt ccttctctga agagtagctg gagcctcat ggggtgccc  
1620  
tgtggccacc tgggtgaggt agcggatctg agctgacagc tccgcctcca cgtgttgac  
1680  
tgaagcgggtg aaggccgccc cctgccggtc taggagccgc tcgttagttt tttccttgga  
1740  
caattctagg atcacagtac ctgcattctg aaggatggcg ccgatttccc gttcaatgtc  
1800  
ttccagagcg cgtagtctct cgttcgccag gctgtaggta gccattatca ctctgggaat  
1860  
tctaccaag agtttctcct cagaaacgag acgcttggtc cc  
1902

&lt;210&gt; 4982

<211> 73  
 <212> PRT  
 <213> Homo sapiens

<400> 4982  
 Met Cys Ile Leu Phe Cys Phe Ala Leu Leu Cys Phe Glu Thr Glu Ser  
 1 5 10 15  
 Arg Ser Val Ile Gln Ala Gly Val Gln Trp His Asp Leu Gly Ser Leu  
 20 25 30  
 Gln Pro Pro Ser Pro Arg Phe Lys Arg Phe Ser Cys Leu Leu Ser  
 35 40 45  
 Ser Trp Asp Tyr Arg Cys Ser Pro Pro His Pro Ala Asn Phe Cys Ile  
 50 55 60  
 Phe Ser Arg Asp Gly Val Ser Pro Cys  
 65 70

<210> 4983  
 <211> 1418  
 <212> DNA  
 <213> Homo sapiens

<400> 4983  
 cgtgggtttct catgcccaata ctggtggaaa aatttccatt tgttcgaaaa tcagagagaa  
 60  
 cactggaatg ttacgttcat aacttactaa ggattagtgt atattttcca acccttgagg  
 120  
 catgaaattc tggagcttat tattgaaaaa ctactcaagt tggatgtgaa tgcattcccg  
 180  
 caggggtattg aagatgctga agaaacagca actcaaactt ttggtgggac agattccacg  
 240  
 gaaggattgt ttaatatgga tgaagatgaa gaaactgaac atgaaacaaa ggctggtcct  
 300  
 gaacggctcg accagatggt gcatcctgta gccgagcgcc tggacatcct gatgtctttg  
 360  
 gttttgtcct acatgaagga tgtctgctat gtagatggta aggttgataa cggcaaaaca  
 420  
 aaggatctat atcgcgacct gataaacatc ttgacaaaac tctgttgcc caccatgcc  
 480  
 tctgccatg tacagttttt catgttttac ctctgtagtt tcaaattggg attcgagag  
 540  
 gcatttttgg aacatctctg gaaaaaattg caggacccaa gtaatcctgc catcatcagg  
 600  
 caggctgctg gaaattatat tggaagcttt ttggcaagag ctaaatttat tcctcttatt  
 660  
 actgtaaaat catgcctaga tcttttgggt aactggctgc acatatacct taataaccag  
 720  
 gattcgggaa caaaggcatt ctgcgatgtt gctctccatg gaccatttta ctacgctgc  
 780  
 caagctgtgt tctacacctt tgtttttaga cacaagcagc ttttgagcgg aaacctgaaa  
 840  
 gaaggtttgc agtatcttca gagtctgaat tttgagcgga tagtgatgag ccagctaaat  
 900  
 ccctgaaga tttgcctgcc ctcaagtgtt aacttttttg ctgcaatcac aaataagtac  
 960

cagctcgtct tctgctacac catcattgag aggaacaatc gccagatgct gccagtcatt  
 1020  
 aggagtaccg ctggaggaga ctgagtgcag acctgcacaa acccactgga caccttcttc  
 1080  
 ccctttgatc cctgtgtgct gaagaggtca aagaaattca ttgattcctat ttatcaggtg  
 1140  
 tgggaagaca tgagtgtgta agagctacag gagttcaaga aacccatgaa aaaggacata  
 1200  
 gtggaagatg aagatgatga ctttctgaaa ggcgaaattc cccagaaatt agtagtaagt  
 1260  
 ggggtctttg tgggttggga agtagtttta atgtagaaag acattttacat ataagtctgt  
 1320  
 ttaatttcaa aggagtttgt gaaaaaaaaat ccatgggtgaa aatgaaacaa tgacatgggt  
 1380  
 aatctggaac ttacgttctt ataccaataa aaggtacc  
 1418

&lt;210&gt; 4984

&lt;211&gt; 256

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4984

Leu Gly Phe Ala Glu Ala Phe Leu Glu His Leu Trp Lys Lys Leu Gln  
 1 5 10 15  
 Asp Pro Ser Asn Pro Ala Ile Ile Arg Gln Ala Ala Gly Asn Tyr Ile  
 20 25 30  
 Gly Ser Phe Leu Ala Arg Ala Lys Phe Ile Pro Leu Ile Thr Val Lys  
 35 40 45  
 Ser Cys Leu Asp Leu Leu Val Asn Trp Leu His Ile Tyr Leu Asn Asn  
 50 55 60  
 Gln Asp Ser Gly Thr Lys Ala Phe Cys Asp Val Ala Leu His Gly Pro  
 65 70 75 80  
 Phe Tyr Ser Ala Cys Gln Ala Val Phe Tyr Thr Phe Val Phe Arg His  
 85 90 95  
 Lys Gln Leu Leu Ser Gly Asn Leu Lys Glu Gly Leu Gln Tyr Leu Gln  
 100 105 110  
 Ser Leu Asn Phe Glu Arg Ile Val Met Ser Gln Leu Asn Pro Leu Lys  
 115 120 125  
 Ile Cys Leu Pro Ser Val Val Asn Phe Phe Ala Ala Ile Thr Asn Lys  
 130 135 140  
 Tyr Gln Leu Val Phe Cys Tyr Thr Ile Ile Glu Arg Asn Asn Arg Gln  
 145 150 155 160  
 Met Leu Pro Val Ile Arg Ser Thr Ala Gly Gly Asp Ser Val Gln Thr  
 165 170 175  
 Cys Thr Asn Pro Leu Asp Thr Phe Phe Pro Phe Asp Pro Cys Val Leu  
 180 185 190  
 Lys Arg Ser Lys Lys Phe Ile Asp Pro Ile Tyr Gln Val Trp Glu Asp  
 195 200 205  
 Met Ser Ala Glu Glu Leu Gln Glu Phe Lys Lys Pro Met Lys Lys Asp  
 210 215 220  
 Ile Val Glu Asp Glu Asp Asp Asp Phe Leu Lys Gly Glu Ile Pro Gln  
 225 230 235 240  
 Lys Leu Val Val Ser Gly Val Phe Val Gly Trp Glu Val Val Leu Met



245

250

255

<210> 4985  
<211> 5695  
<212> DNA  
<213> Homo sapiens

<400> 4985  
cgctgccgcc gtcacccgcg ggaccccgagg agcacagact cccctcccc cggccccctc  
60  
aggccggggg tgaccttgcc ccttgagacc ctcaccatga ataccaagga caccaccgag  
120  
gttgctgaaa acagccacca cctgaagatc tttctcccca agaagctgct ggagtgtctt  
180  
cctcgctgcc cgctgctgcc tccagagagg ctacgggtgga atacaaatga ggagattgca  
240  
tcctacctga tcacctttga gaagcatgat gagggtgtgt cttgtgcccc aaagacaagg  
300  
cctcagaatg gctccatcat cctctacaat cgcaagaagg tgaaatatcg gaaggatggt  
360  
tacctctgga agaagcggaa ggatgggaag accaccgag aggaccacat gaagctgaag  
420  
gtccagggca tggagcctgt ctctggcag tgtctctatg gctgctacgt tcaactcttc  
480  
atcgccccca cattccatcg gcgctgctac tggctgctcc agaaccctga catcgctctt  
540  
gtgcactacc tgaacgtccc agccctggag gactgtggaa agggctgcag ccccatcttt  
600  
tgttccatca gcagcgaccg tcgagagtgg ctgaagtggg cccgggagga gttgttggga  
660  
cagctgaagc ccatgtttca tggcatcaag tggagctgcg ggaatggaac agaagagtcc  
720  
tctgtagaac acctggtgca gcagattttg gacaccacc caaccaagcc tgctccccga  
780  
accacgcct gtctctgcag tgggggggctt ggttctggga gccttaccga caaatgcagc  
840  
agcagaaac accgcatcat ctctcccaaa gtggagcccc gagctttaac cctgacctct  
900  
atccccacc ctcaccccc agagcctcct cactgatag cccacttcc cccagagctc  
960  
cccaaggcac acacctcccc atcttcttcc tcttcttct cctcatcagg ttttgcagag  
1020  
ccctagaaa tcagacctag cctccact tctcgagggg gttcttcaag aggaggcact  
1080  
gctatcctcc tctgacagg actggagcag cgggctggag gcttgacgcc caccaggcac  
1140  
ttggctccac aggtgatcc taggccttcc atgagtttgg cagtggttgt aggcactgag  
1200  
ccttctgccc caccagctcc tcccagtcct gcctttgacc ctgategttt tctcaacagc  
1260  
ccccagagg gccagacata tggagggggg caggagtaa gccagactt ccccgaggca  
1320  
gaggccgctc atacccttg ttctgcccta gagcctgctg ctgccctgga gcccagggca  
1380

gctgctcggg gtccccacc acagtcagta gcagggtggga gaagaggaaa ctgcttcttc  
1440  
atccaagatg atgacagtgg ggaggagctc aagggtcacg gggctgcccc acccatacct  
1500  
tcacccccctc cctcaccccc accctcacct gcccccttgg agccgtcaag cagggtagga  
1560  
agaggagagg ccttgtttgg aggacctgtt gggggccagt aactggagcc cttcagtctt  
1620  
tcatcattcc cagaccttat gggagaactc atcagtgcg aagctccaag catccctgct  
1680  
ccgaccccc agctgtctcc tgctcttagc accatcacag acttctcccc agagtggctc  
1740  
taccagagg gtgggggtcaa ggtgctcatc acaggtcctt ggaccgaagc cgccgagcat  
1800  
tactcctgtg tctttgatca catcgcagtg ccagcctcac ttgtccagcc tgggtgtctta  
1860  
cgctgctact gtcccgccta tgaggtaggg ctgggtgtctt tgcagggtggc agggcgggag  
1920  
gggccccctt ctgcttctgt gctctttgag tatcgagccc gccgattcct gtctctgct  
1980  
agtactcaac ttgactggct gtcactggac gacaaccagt tccggatgtc catactagag  
2040  
cgactggagc agatggagaa gcggatggca gagatcgag cagctgggca ggtgccttgc  
2100  
cagggtcctg atgctcctcc agttcaggat gaaggccagg ggcttgggtt cgaagcacgg  
2160  
gtagtggctt tggtagaaag catgatccca cgctccacct ggaagggtcc tgaacgtctg  
2220  
gcccattgaa gcccttccg gggcatgagc cttctgcacc tggctgctgc ccagggtat  
2280  
gcccgcctca tcgagacct gagccagtgg cggagtgtgg agactggaag cttggactta  
2340  
gagcaggagg ttgaccgct caacgtggat catttctctt gcacccctct gatgtgggct  
2400  
tgtgccctgg gacacctgga agctgctgtg ctcttttcc gttggaaccg acaggcactg  
2460  
agcattcccc actctctggg ccgtctgcca ttgtctgtgg ctcatccccg gggtcattgt  
2520  
cgcttgccc gctgccttga ggaactacag agacaggagc cttcggtgga gccccattt  
2580  
gccctatcgc caccctctc cagcccagac actgggtctga gcagcgtctc ctgcacctg  
2640  
gagctgtcgg atggcacctt ttccgtcacg tcagcctatt ctagtgcccc agatggcagt  
2700  
ccccccctg cacctctgcc agcctctgag atgactatgg aggacatggc ccaggccag  
2760  
ctttcctctg gtgtcccaga agcccccta ctctcatgg actatgaggc taccaactcc  
2820  
aaggggcccc tctctccct tcttgcctc ccaccagctt cagatgatgg ggctgtcca  
2880  
gaggacgctg acagcccaca ggctgtggat gtgatcccg tggacatgat ctactagcc  
2940  
aagcagatca tcgaagccac accggagcgg attaaacgag aggacttcgt ggggctgccc  
3000

gaggctggag cctcaatgcg ggagcggaca ggggctgtgg ggctcagtga gaccatgtcc  
3060  
tggttgcca gctacctgga gaatgtggac catttcccca gctcaacccc tcccagcgaa  
3120  
ctgccctttg agcgaggctg cctggctgtc ccttcagcac cctcctgggc agagtttctc  
3180  
tctgcatcca ccagtggcaa gatggaaagt gattttgccc tgetgacact atcagatcac  
3240  
gagcagcggg aactgtatga ggctgcccga gtcattccaga cggccttccg aaagtacaag  
3300  
ggcggcgggc tgaaggagca gcaggaggta gcagcagctg taatccagcg ctgttaccgg  
3360  
aagtacaagc agctgacctg gattgcactt aagtttgac tctataagaa gatgaccag  
3420  
gcggccatcc tgatccagag caagtccga agctactatg aacagaagcg atttcagcag  
3480  
agccgccgag cggctgtgct catccagcag cactaccgct cctaccgccg caggcccggc  
3540  
cctccccacc ggacttcggc caccctgcct gcccgcaaca aaggctcctt tctaccaag  
3600  
aagcaggacc aggcagcccg gaagatcatg agattcctgc ggcgctgccg acacaggatg  
3660  
agggaaactga agcagaacca ggagctggaa gggcttcccc agccgggact ggccacatga  
3720  
cctggccacc gcctttctca ccaccctggg ggcgcctcgt gcagtcttaa caggagagg  
3780  
gctttctggg gcagggggag cccctgtcgg cagctttcct gttcaccttt gttggagccc  
3840  
tctgtaggcc tcctccctcc tccccacgcc ttgctcccac acccctctcc tctccctcc  
3900  
tggtcgtgcc ccgtctcttt tggctcctggc tccagaaaac ccgcgccccca catacctgca  
3960  
tcttccgctg tgacctccgg agccctgcct gccctgtct cccagctcct cctgcctgca  
4020  
cccgaactcg cccctcctg acttgccctt tttatttggt cgacgcgtct ctgaatgtat  
4080  
ccgcctcggt tcccaccact gccttcgctg cgcacgcccc tctgttttca gggctgaccg  
4140  
tgtccccacc cgactccgca tgtttgctg tggttccctcc ctctctggcc ctgtcttacc  
4200  
ccatcacccg actctggcca ctgacctcag ggccgaaggg gagtggtgt acataggaac  
4260  
gcgttgcgga gtccgccccg tcccccgagg ggaggggtct tgtacatact gtaacataca  
4320  
gagtatagt aagaatctat ttaaggcgcc gcggggaggg ctgcacggcc gggcttgtgg  
4380  
ttctctagcg cggcgggggc ctcttgccgg ctccacgggc actttctact tgtgcatggg  
4440  
cttggtttat acgaattgcc attaaacatc gctgcaccag ccagcctccg gcctctgtct  
4500  
gcggggggcg ggcggggcct aggccagctg gaggccgcca tgcaccgcgg gcctgggatc  
4560  
tgcgcccagg ccaggcgggc ccagggtttt ccgcctccga cgtgtttccg gccttaaagg  
4620

cattccgccc ttccctttaa gacgcaccgc cccctctcag tcaactccaa gatggcggac  
 4680  
 ctactgggct ccatactgag ctccatggag aagccaccca gcctcgggtga ccaggagact  
 4740  
 cggcgcaagg cccgagaaca ggccgcccgc ctgaagaaac tacaagagca agagaaacaa  
 4800  
 cagaaagtgg agtttcgtaa aaggatggag aaggaggtgt cagatttcat tcaagacagt  
 4860  
 gggcagatca agaaaaagtt tcagccaatg aacaagatcg agaggagcat actacatgat  
 4920  
 gtggtggaag tggctggcct gacatccttc tcctttgggg aagatgatga ctgtcgctat  
 4980  
 gtcattgatct tcaaaaagga gtttgcaccc tcagatgaag agctagactc ttaccgtcgt  
 5040  
 ggagaggaat gggaccccca gaaggctgag gagaagcggg agctgaagga gctggcccg  
 5100  
 aggcaagagg aggaggcagc ccagcagggg cctgtggtgg tgagccctgc cagcgactac  
 5160  
 aaggacaagt acagccacct catcggcaag ggagcagcca aagacgcagc ccacatgcta  
 5220  
 caggccaata agacctacgg ctgtgtgccc gtggccaata agagggacac acgtccatt  
 5280  
 gaagaggcta tgaatgagat cagagccaag aagcgtctgc ggcagagtgg ggaagagttg  
 5340  
 ccgccaacct cctaggcgcc ccgcccagct ccctttgacc cctggggcag ggcagggggc  
 5400  
 agggagagac aaggctgctg ctattagagc ccatactgga gccccacctc tgaaccacct  
 5460  
 cctaccagct gtccctcagg ctgggggaaa acaggtgttt gatttgtcac cgttggagct  
 5520  
 tggatatgtg cgtggcatgt gtgtgtgtgt gtgtgagagt gtgaatgcac aggtgggtat  
 5580  
 ttaattctgta ttattccccg ttcttggaat tttcttcccc atggggctgg ggtactttac  
 5640  
 attcaataaa tactgtttaa cccaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa  
 5695

&lt;210&gt; 4986

&lt;211&gt; 1239

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4986

Arg	Cys	Arg	Arg	His	Pro	Arg	Asp	Pro	Gly	Ser	Thr	Asp	Ser	Pro	Ser
1				5					10					15	
Pro	Arg	Pro	Leu	Arg	Pro	Gly	Val	Thr	Leu	Pro	Pro	Gly	Ala	Leu	Thr
			20					25					30		
Met	Asn	Thr	Lys	Asp	Thr	Thr	Glu	Val	Ala	Glu	Asn	Ser	His	His	Leu
		35					40					45			
Lys	Ile	Phe	Leu	Pro	Lys	Lys	Leu	Leu	Glu	Cys	Leu	Pro	Arg	Cys	Pro
	50					55					60				
Leu	Leu	Pro	Pro	Glu	Arg	Leu	Arg	Trp	Asn	Thr	Asn	Glu	Glu	Ile	Ala
65					70					75				80	
Ser	Tyr	Leu	Ile	Thr	Phe	Glu	Lys	His	Asp	Glu	Trp	Leu	Ser	Cys	Ala

				85				90				95			
Pro	Lys	Thr	Arg	Pro	Gln	Asn	Gly	Ser	Ile	Ile	Leu	Tyr	Asn	Arg	Lys
100				105				110							
Lys	Val	Lys	Tyr	Arg	Lys	Asp	Gly	Tyr	Leu	Trp	Lys	Lys	Arg	Lys	Asp
115				120				125							
Gly	Lys	Thr	Thr	Arg	Glu	Asp	His	Met	Lys	Leu	Lys	Val	Gln	Gly	Met
130				135				140							
Glu	Pro	Val	Ser	Trp	Gln	Cys	Leu	Tyr	Gly	Cys	Tyr	Val	His	Ser	Ser
145					150				155				160		
Ile	Val	Pro	Thr	Phe	His	Arg	Arg	Cys	Tyr	Trp	Leu	Leu	Gln	Asn	Pro
				165				170				175			
Asp	Ile	Val	Leu	Val	His	Tyr	Leu	Asn	Val	Pro	Ala	Leu	Glu	Asp	Cys
				180				185				190			
Gly	Lys	Gly	Cys	Ser	Pro	Ile	Phe	Cys	Ser	Ile	Ser	Ser	Asp	Arg	Arg
				195				200				205			
Glu	Trp	Leu	Lys	Trp	Ser	Arg	Glu	Glu	Leu	Leu	Gly	Gln	Leu	Lys	Pro
				210				215				220			
Met	Phe	His	Gly	Ile	Lys	Trp	Ser	Cys	Gly	Asn	Gly	Thr	Glu	Glu	Phe
225					230				235				240		
Ser	Val	Glu	His	Leu	Val	Gln	Gln	Ile	Leu	Asp	Thr	His	Pro	Thr	Lys
				245				250				255			
Pro	Ala	Pro	Arg	Thr	His	Ala	Cys	Leu	Cys	Ser	Gly	Gly	Leu	Gly	Ser
				260				265				270			
Gly	Ser	Leu	Thr	His	Lys	Cys	Ser	Ser	Thr	Lys	His	Arg	Ile	Ile	Ser
				275				280				285			
Pro	Lys	Val	Glu	Pro	Arg	Ala	Leu	Thr	Leu	Thr	Ser	Ile	Pro	His	Pro
				290				295				300			
His	Pro	Pro	Glu	Pro	Pro	Pro	Leu	Ile	Ala	Pro	Leu	Pro	Pro	Glu	Leu
305					310				315				320		
Pro	Lys	Ala	His	Thr	Ser	Pro	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser
				325				330				335			
Gly	Phe	Ala	Glu	Pro	Leu	Glu	Ile	Arg	Pro	Ser	Pro	Pro	Thr	Ser	Arg
				340				345				350			
Gly	Gly	Ser	Ser	Arg	Gly	Gly	Thr	Ala	Ile	Leu	Leu	Leu	Thr	Gly	Leu
				355				360				365			
Glu	Gln	Arg	Ala	Gly	Gly	Leu	Thr	Pro	Thr	Arg	His	Leu	Ala	Pro	Gln
				370				375				380			
Ala	Asp	Pro	Arg	Pro	Ser	Met	Ser	Leu	Ala	Val	Val	Val	Gly	Thr	Glu
385					390				395				400		
Pro	Ser	Ala	Pro	Pro	Ala	Pro	Pro	Ser	Pro	Ala	Phe	Asp	Pro	Asp	Arg
				405				410				415			
Phe	Leu	Asn	Ser	Pro	Gln	Arg	Gly	Gln	Thr	Tyr	Gly	Gly	Gly	Gln	Gly
				420				425				430			
Val	Ser	Pro	Asp	Phe	Pro	Glu	Ala	Glu	Ala	Ala	His	Thr	Pro	Cys	Ser
				435				440				445			
Ala	Leu	Glu	Pro	Ala	Ala	Ala	Leu	Glu	Pro	Gln	Ala	Ala	Ala	Arg	Gly
				450				455				460			
Pro	Pro	Pro	Gln	Ser	Val	Ala	Gly	Gly	Arg	Arg	Gly	Asn	Cys	Phe	Phe
465					470				475				480		
Ile	Gln	Asp	Asp	Asp	Ser	Gly	Glu	Glu	Leu	Lys	Gly	His	Gly	Ala	Ala
				485				490				495			
Pro	Pro	Ile	Pro	Ser	Pro	Pro	Pro	Ser	Pro	Pro	Pro	Ser	Pro	Ala	Pro
				500				505				510			
Leu	Glu	Pro	Ser	Ser	Arg	Val	Gly	Arg	Gly	Glu	Ala	Leu	Phe	Gly	Gly

515 520 525  
 Pro Val Gly Ala Ser Glu Leu Glu Pro Phe Ser Leu Ser Ser Phe Pro  
 530 535 540  
 Asp Leu Met Gly Glu Leu Ile Ser Asp Glu Ala Pro Ser Ile Pro Ala  
 545 550 555 560  
 Pro Thr Pro Gln Leu Ser Pro Ala Leu Ser Thr Ile Thr Asp Phe Ser  
 565 570 575  
 Pro Glu Trp Ser Tyr Pro Glu Gly Gly Val Lys Val Leu Ile Thr Gly  
 580 585 590  
 Pro Trp Thr Glu Ala Ala Glu His Tyr Ser Cys Val Phe Asp His Ile  
 595 600 605  
 Ala Val Pro Ala Ser Leu Val Gln Pro Gly Val Leu Arg Cys Tyr Cys  
 610 615 620  
 Pro Ala His Glu Val Gly Leu Val Ser Leu Gln Val Ala Gly Arg Glu  
 625 630 635 640  
 Gly Pro Leu Ser Ala Ser Val Leu Phe Glu Tyr Arg Ala Arg Arg Phe  
 645 650 655  
 Leu Ser Leu Pro Ser Thr Gln Leu Asp Trp Leu Ser Leu Asp Asp Asn  
 660 665 670  
 Gln Phe Arg Met Ser Ile Leu Glu Arg Leu Glu Gln Met Glu Lys Arg  
 675 680 685  
 Met Ala Glu Ile Ala Ala Ala Gly Gln Val Pro Cys Gln Gly Pro Asp  
 690 695 700  
 Ala Pro Pro Val Gln Asp Glu Gly Gln Gly Pro Gly Phe Glu Ala Arg  
 705 710 715 720  
 Val Val Val Leu Val Glu Ser Met Ile Pro Arg Ser Thr Trp Lys Gly  
 725 730 735  
 Pro Glu Arg Leu Ala His Gly Ser Pro Phe Arg Gly Met Ser Leu Leu  
 740 745 750  
 His Leu Ala Ala Ala Gln Gly Tyr Ala Arg Leu Ile Glu Thr Leu Ser  
 755 760 765  
 Gln Trp Arg Ser Val Glu Thr Gly Ser Leu Asp Leu Glu Gln Glu Val  
 770 775 780  
 Asp Pro Leu Asn Val Asp His Phe Ser Cys Thr Pro Leu Met Trp Ala  
 785 790 795 800  
 Cys Ala Leu Gly His Leu Glu Ala Ala Val Leu Leu Phe Arg Trp Asn  
 805 810 815  
 Arg Gln Ala Leu Ser Ile Pro Asp Ser Leu Gly Arg Leu Pro Leu Ser  
 820 825 830  
 Val Ala His Ser Arg Gly His Val Arg Leu Ala Arg Cys Leu Glu Glu  
 835 840 845  
 Leu Gln Arg Gln Glu Pro Ser Val Glu Pro Pro Phe Ala Leu Ser Pro  
 850 855 860  
 Pro Ser Ser Ser Pro Asp Thr Gly Leu Ser Ser Val Ser Ser Pro Ser  
 865 870 875 880  
 Glu Leu Ser Asp Gly Thr Phe Ser Val Thr Ser Ala Tyr Ser Ser Ala  
 885 890 895  
 Pro Asp Gly Ser Pro Pro Pro Ala Pro Leu Pro Ala Ser Glu Met Thr  
 900 905 910  
 Met Glu Asp Met Ala Pro Gly Gln Leu Ser Ser Gly Val Pro Glu Ala  
 915 920 925  
 Pro Leu Leu Leu Met Asp Tyr Glu Ala Thr Asn Ser Lys Gly Pro Leu  
 930 935 940  
 Ser Ser Leu Pro Ala Leu Pro Pro Ala Ser Asp Asp Gly Ala Ala Pro

945                                      950                                      955                                      960  
 Glu Asp Ala Asp Ser Pro Gln Ala Val Asp Val Ile Pro Val Asp Met  
    965                                      970                                      975  
 Ile Ser Leu Ala Lys Gln Ile Ile Glu Ala Thr Pro Glu Arg Ile Lys  
    980                                      985                                      990  
 Arg Glu Asp Phe Val Gly Leu Pro Glu Ala Gly Ala Ser Met Arg Glu  
    995                                      1000                                      1005  
 Arg Thr Gly Ala Val Gly Leu Ser Glu Thr Met Ser Trp Leu Ala Ser  
    1010                                      1015                                      1020  
 Tyr Leu Glu Asn Val Asp His Phe Pro Ser Ser Thr Pro Pro Ser Glu  
 1025                                      1030                                      1035                                      1040  
 Leu Pro Phe Glu Arg Gly Arg Leu Ala Val Pro Ser Ala Pro Ser Trp  
    1045                                      1050                                      1055  
 Ala Glu Phe Leu Ser Ala Ser Thr Ser Gly Lys Met Glu Ser Asp Phe  
    1060                                      1065                                      1070  
 Ala Leu Leu Thr Leu Ser Asp His Glu Gln Arg Glu Leu Tyr Glu Ala  
    1075                                      1080                                      1085  
 Ala Arg Val Ile Gln Thr Ala Phe Arg Lys Tyr Lys Gly Arg Arg Leu  
    1090                                      1095                                      1100  
 Lys Glu Gln Gln Glu Val Ala Ala Ala Val Ile Gln Arg Cys Tyr Arg  
 1105                                      1110                                      1115                                      1120  
 Lys Tyr Lys Gln Leu Thr Trp Ile Ala Leu Lys Phe Ala Leu Tyr Lys  
    1125                                      1130                                      1135  
 Lys Met Thr Gln Ala Ala Ile Leu Ile Gln Ser Lys Phe Arg Ser Tyr  
    1140                                      1145                                      1150  
 Tyr Glu Gln Lys Arg Phe Gln Gln Ser Arg Arg Ala Ala Val Leu Ile  
    1155                                      1160                                      1165  
 Gln Gln His Tyr Arg Ser Tyr Arg Arg Arg Pro Gly Pro Pro His Arg  
    1170                                      1175                                      1180  
 Thr Ser Ala Thr Leu Pro Ala Arg Asn Lys Gly Ser Phe Leu Thr Lys  
 1185                                      1190                                      1195                                      1200  
 Lys Gln Asp Gln Ala Ala Arg Lys Ile Met Arg Phe Leu Arg Arg Cys  
    1205                                      1210                                      1215  
 Arg His Arg Met Arg Glu Leu Lys Gln Asn Gln Glu Leu Glu Gly Leu  
    1220                                      1225                                      1230  
 Pro Gln Pro Gly Leu Ala Thr  
    1235

&lt;210&gt; 4987

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4987

gtcggggcca cggagcttgc aggagctgag gcagctcaga gccagcctcg gtggtgaccc  
60

cgtctccctg gtggggacac tccattttcc agctcttgat agaaacacag gtgactgtcg  
120

ggaggagtgg gagggaggct ccttggtgtgg cgagtcctt cgctcttagt ggtctctgct  
180

ccccttggtg aaacgcagtt ccaagaaaac aaagaggaaa tgctgcgaag agccacaagg  
240

actttttctc tgagtcacaa gaagacgaat atacgctgca atgacgcagt gaggggaagaa  
300

gtcgccttgc acccatatgg ctgctgagga tgggagagat ggacgcggtc ggagaga  
357

<210> 4988

<211> 105

<212> PRT

<213> Homo sapiens

<400> 4988

```
Met Gly Ala Arg Arg Leu Leu Pro Ser Leu Arg His Cys Ser Val Tyr
 1           5           10           15
Ser Ser Ser Cys Asp Ser Glu Lys Lys Ser Leu Trp Leu Phe Ala Ala
 20           25           30
Phe Pro Leu Cys Phe Leu Gly Thr Ala Phe Pro Gln Gly Glu Gln Arg
 35           40           45
Pro Leu Glu Ala Lys Gly Leu Ala Thr Gln Gly Ala Ser Leu Pro Leu
 50           55           60
Leu Pro Thr Val Thr Cys Val Ser Ile Lys Ser Trp Lys Met Glu Cys
 65           70           75           80
Pro His Gln Gly Asp Gly Val Thr Thr Glu Ala Gly Ser Glu Leu Pro
 85           90           95
Gln Leu Leu Gln Ala Pro Trp Pro Arg
 100           105
```

<210> 4989

<211> 1723

<212> DNA

<213> Homo sapiens

<400> 4989

```
tgatcacatc gggggactct ttctacatcc ggctgaacct gaacatctcc agccagctgg
 60
acgcctgcac catgtccctg aagtgtgacg atgttgcgca cgtccgtgac accatgtacc
 120
aggacaggca cgagtggctg tgcgcgcggg tcgacccttt cacagaccat gacctggata
 180
tgggcaccat acccagctac agccgagccc agcagctcct cctggtgaaa ctgcagcgcc
 240
tgatgcaccg aggcagccgg gaggaggtag acggcaccca ccacaccctg cgggcactcc
 300
ggaacaccct gcagccagaa gaagcgcttt caacaagcga cccccgggtc agcccccgctc
 360
tctcgcgagc aagcttcctt tttggccagc tcttcagtt cgtcagcagg tccgagaaca
 420
agtataagcg gatgaacagc aacgagcggg tccgcatcat ctcggggagt ccgctagggg
 480
gcctggcccc gtccctcgctg gacgccacca agctcttgac tgagaagcag gaagagctgg
 540
accctgagag cgagctgggc aagaacctca gcctcatccc ctacagcctg gtacgcgcct
 600
tctactgcca gcgccgccgg cccgtgctct tcacaccac cgtgctggcc aagacgctgg
 660
tgagaggct gctcaactcg ggaggtgcc tggagttcac catctgcaag tcagatatcg
 720
```



tcacaagaga tgagttcctc agaaggcaga agacggagac catcatctac tcccagagaga  
 780  
 agaaccccaa cgcgttcgaa tgcatacgccc ctgccaacat tgaagctgtg gccgccaaga  
 840  
 acaagcactg cctgctggag gctgggatcg gctgcacaag agacttgatc aagtccaaca  
 900  
 tctaccccat cgtgctcttc atccgggtgt gtgagaagaa catcaagagg ttcagaaagc  
 960  
 tgctgccccg gcctgagacg gaggaggagt tcctgcgctg gtgccggctg aaggagaagg  
 1020  
 agctggaggc cctgccgtgc ctgtacgcca cgggtggaacc tgacatgtgg gccagcgtag  
 1080  
 aggagctgct ccgcgttgct aaggacaaga tcggcgagga gcagcgcaag accatctggg  
 1140  
 tggacgagga ccagctgtga ggcgggcgcc ctgggcagag agactctgtg gcgcggggca  
 1200  
 tcctatgagg caggcacctt gggcagagag atgcagtggg tgcgggggga tcctgtggcc  
 1260  
 cacagagctg cccagcaga cgctccgccc cacccggtga tggagccccg gggggacagt  
 1320  
 cgtgcctggg gaggagcagg gtacagccca tccccccagc cctggctgac ctggcctagc  
 1380  
 agtttggccc tgctggcctt agcagggaga caggggagca aagaacgcca agccggaggc  
 1440  
 cccaggccag ccggcctctc gagagccaga gcagcagttg aatgtaatgc tggggacagg  
 1500  
 catgtgccg ccagtagggc ggggacccgg acagccaggt gactaccagt cctggggaca  
 1560  
 cactacccat aaacacatcc ccaggcagga cagatcgggg aaggggtgtg taccaggcta  
 1620  
 tgatttctct tgcattaaaa tgtattatta tttctttgtt tgcacccttt gtttgtgaac  
 1680  
 agcttgccag gccttgagcc cttgccgcct tcctaacctg aaa  
 1723

&lt;210&gt; 4990

&lt;211&gt; 54

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4990

Thr	Ala	Pro	Thr	Thr	Pro	Cys	Gly	His	Ser	Gly	Thr	Pro	Cys	Ser	Gln
1				5					10					15	
Lys	Lys	Arg	Phe	Gln	Gln	Ala	Thr	Pro	Gly	Ser	Ala	Pro	Val	Ser	Arg
			20					25					30		
Glu	Gln	Ala	Ser	Phe	Leu	Ala	Ser	Ser	Phe	Ser	Ser	Ser	Ala	Gly	Pro
			35				40					45			
Arg	Thr	Ser	Ile	Ser	Gly										
50															

&lt;210&gt; 4991

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4991

aaattttatt acccagaact gtacaaactg gtgactggga aagagccac tcggagattc  
 60  
 tccaccattg tgggtggagga aggccacgag ggcctcacgc acttcctgat gaacgaggtc  
 120  
 atcaagctgc agcagcagat gaaggccaag gacctgcaac gctgcgagct gctggccagg  
 180  
 ttgcggcagc tggaggatga gaagaagcag atgacgctga cgcgcgtgga gctgctaacc  
 240  
 ttccaggagc ggtactacaa gatgaaggaa gagcgggaca gctacaatga cgagctggtc  
 300  
 aaggtgaagg acgacaacta caacttagcc atgcgctacg cacagctcag tgaggagaag  
 360  
 aacatggcgg tcatgaggag ccgagacctc caactcgaga tcgatcagct aaagcaccgg  
 420  
 ttgaataaga tggaggagga atgtaagctg gagagaaatc agtctctaaa actgaagaat  
 480  
 gacattgaaa atcggcccaa gaaggagcag gttctggaac tggagcggga gaatgaaatg  
 540  
 ctgaagacca aaaaccagga gctgcagtcc atcatccagg ccgggaagcg cagcctgcca  
 600  
 gactcagaca aggccatcct ggacatcttg gaacacgacc gcaaggaggc cctggaggac  
 660  
 aggcaggagc tgggtcaacag gatctacaac ctgcaggagg aggcccgcca ggcagaggag  
 720  
 ctgcgagaca agtacctgga ggagaaggag gacctggagc tcaagtgtc gaccctggga  
 780  
 aaggactgtg aaatgtacaa gcaccgcatg aacacggtca tgctgcag  
 828

&lt;210&gt; 4992

&lt;211&gt; 69

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4992

Asp Ile Leu Glu His Asp Arg Lys Glu Ala Leu Glu Asp Arg Gln Glu  
 1 5 10 15  
 Leu Val Asn Arg Ile Tyr Asn Leu Gln Glu Glu Ala Arg Gln Ala Glu  
 20 25 30  
 Glu Leu Arg Asp Lys Tyr Leu Glu Glu Lys Glu Asp Leu Glu Leu Lys  
 35 40 45  
 Cys Ser Thr Leu Gly Lys Asp Cys Glu Met Tyr Lys His Arg Met Asn  
 50 55 60  
 Thr Val Met Leu Gln  
 65

&lt;210&gt; 4993

&lt;211&gt; 837

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4993

tggaccttca ggccgcccggg gccccaggcgc agggggccgc ggaccgtctc ggggcccgc  
 60  
 gctgcctagc gcgcgggggg cgccccagc ccggagctgg ctttgctaca gctgaccact  
 120  
 ccagtcagga gagagagact gagaaggcta tggatcgact agcccgtgga acacagagca  
 180  
 ttcctaataga cagtccctgcc cgggggtgagg gcacccattc tgaagaggaa ggctttgcca  
 240  
 tggatgagga ggactctgat ggagaactga atacctggga gctgtcagaa gggacaaact  
 300  
 gtccacccaa ggaacagcct ggcgatcttt ttaatgagga ctgggactcg gagttgaaag  
 360  
 cagatcaagg gaatccatat gatgctgacg acatccagga gagcatttct caagagctta  
 420  
 aaccttgggt gtgctgtgcc ccacaaggag acatgatcta tgaccccagc tggcaccatc  
 480  
 cgctccact gataccctat tattccaaga tggctcttga aacaggacag tttgacgatg  
 540  
 ctgaagattg agtgtggagc tttctgcctt gtaggtgggc gggcctccac gtcaagatct  
 600  
 cttttcctgt cttggagggtg aaaagtcata tctgagaaaa tgtttgcagt gacccttagt  
 660  
 ctggggtaca cagaccagtg ttccttattg acagtgttca ataaggcccc gtcattctcg  
 720  
 ccagtctgtt gttgttctta atgggctcct ccttgaaatg tgtgtgtgtt tgtgtcaaga  
 780  
 ggagttgtgt tctttgtaaa taaagggttaa aaagagaaac caaaaaaaaa aaaaaa  
 837

&lt;210&gt; 4994

&lt;211&gt; 133

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4994

Met	Asp	Arg	Leu	Ala	Arg	Gly	Thr	Gln	Ser	Ile	Pro	Asn	Asp	Ser	Pro
1				5					10					15	
Ala	Arg	Gly	Glu	Gly	Thr	His	Ser	Glu	Glu	Gly	Phe	Ala	Met	Asp	
		20						25				30			
Glu	Glu	Asp	Ser	Asp	Gly	Glu	Leu	Asn	Thr	Trp	Glu	Leu	Ser	Glu	Gly
		35					40					45			
Thr	Asn	Cys	Pro	Pro	Lys	Glu	Gln	Pro	Gly	Asp	Leu	Phe	Asn	Glu	Asp
		50				55					60				
Trp	Asp	Ser	Glu	Leu	Lys	Ala	Asp	Gln	Gly	Asn	Pro	Tyr	Asp	Ala	Asp
65					70					75				80	
Asp	Ile	Gln	Glu	Ser	Ile	Ser	Gln	Glu	Leu	Lys	Pro	Trp	Val	Cys	Cys
				85					90					95	
Ala	Pro	Gln	Gly	Asp	Met	Ile	Tyr	Asp	Pro	Ser	Trp	His	His	Pro	Pro
			100					105					110		
Pro	Leu	Ile	Pro	Tyr	Tyr	Ser	Lys	Met	Val	Phe	Glu	Thr	Gly	Gln	Phe
		115					120					125			
Asp	Asp	Ala	Glu	Asp											
130															

<210> 4995  
<211> 1595  
<212> DNA  
<213> Homo sapiens

<400> 4995  
nntccggatt catggactcc agaagaagtg attcccaaga gattgcaaga gaaacagaag  
60  
tgaggacctt gaagaaactg catggttggga tcagtctgat gaagcacttg aggccttctg  
120  
agcccaggca gatgtgaact cctggcaagg ggtgggcagg tccagtttgg gaagtcgggg  
180  
tggagcccag ggctggccct ggaatgcagt cctcagagcg gctgtgctca taggtcagaa  
240  
cgggaaacag ccgtacgcat ctcccaggag attgggaacc ttatgaagga aatcgagacc  
300  
cttgtggaag agaagaccaa ggagtcactg gatgtgagca gactgacctg ggaaggtggc  
360  
cccctgctgt atgaaggcat cagtctcacc atgaactcca aactcctgaa tggttcccag  
420  
cgggtggtga tggacggcgt aatctctgac cacgagtgtc aggagctgca gagactgacc  
480  
aatgtggcag caacctcagg agatggctac cggggtcaga cctccccaca tactcccaat  
540  
gaaaagttct atggtgtcac tgtcttcaaa gccctcaagc tggggcaaga aggcaaagtt  
600  
cctctgcaga gtgcccacct gtactacaac gtgacggaga aggtgcggcg catcatggag  
660  
tcctacttcc gcctggatac gcccctctac ttttctact ctcatctggt gtgccgcact  
720  
gccatcgaag aggtccaggc agagaggaag gatgatagtc atccagtcca cgtggacaac  
780  
tgcatactga atgccgagac cctcgtgtgt gtcaaagagc cccagccta caccttccgc  
840  
gactacagcg ccataccttta cctaaatggg gacttcgatg gcggaaactt ttatttctact  
900  
gaactggatg ccaagaccgt gacggcagag gtgtagcctc agtgtggaag agccgtggga  
960  
ttctcttcag gcactgaaaa cccacatgga gtgaaggctg tcaccagggg gcagcgtgtg  
1020  
gccatgccc tgtggttcac cctggaccct cgacacagcg agcgggacag ggtgcaggca  
1080  
gatgacctgg tgaagatgct cttcagccca gaagagatgg acctctcca ggagcagccc  
1140  
ctggatgccc agcagggccc ccccnngaac ctgcacaaga gtctctctca ggcagtgaat  
1200  
cgaagcccaa ggatgagcta tgacagcgtc caggtcagac ggatgggtga ctagacccat  
1260  
ggagaggaac tcttctgcac tctgagctgg ccagccctc ggggctgcag agcagtgagc  
1320  
ctacatctgc cactcagccg aggggaccct gctcacagcc ttctacatgg tgctactgct  
1380  
cttgagtggt acatgaccag acaccgcacc ccctggatct ggctgagggc tcaggacaca  
1440

ggcccagcca cccccagggg cctccacagg ccgctgcata acagcgatac agtacttaag  
 1500  
 tgtctgtgta tacaaccaaa gaataaatga ttcattgggtt tttttacttg gtttgttcag  
 1560  
 acaatggaaa tttgcccatt ctgtcaaaaa aaaaa  
 1595

<210> 4996  
 <211> 217  
 <212> PRT  
 <213> Homo sapiens

<400> 4996  
 Met Lys Glu Ile Glu Thr Leu Val Glu Glu Lys Thr Lys Glu Ser Leu  
 1 5 10 15  
 Asp Val Ser Arg Leu Thr Arg Glu Gly Gly Pro Leu Leu Tyr Glu Gly  
 20 25 30  
 Ile Ser Leu Thr Met Asn Ser Lys Leu Leu Asn Gly Ser Gln Arg Val  
 35 40 45  
 Val Met Asp Gly Val Ile Ser Asp His Glu Cys Gln Glu Leu Gln Arg  
 50 55 60  
 Leu Thr Asn Val Ala Ala Thr Ser Gly Asp Gly Tyr Arg Gly Gln Thr  
 65 70 75 80  
 Ser Pro His Thr Pro Asn Glu Lys Phe Tyr Gly Val Thr Val Phe Lys  
 85 90 95  
 Ala Leu Lys Leu Gly Gln Glu Gly Lys Val Pro Leu Gln Ser Ala His  
 100 105 110  
 Leu Tyr Tyr Asn Val Thr Glu Lys Val Arg Arg Ile Met Glu Ser Tyr  
 115 120 125  
 Phe Arg Leu Asp Thr Pro Leu Tyr Phe Ser Tyr Ser His Leu Val Cys  
 130 135 140  
 Arg Thr Ala Ile Glu Glu Val Gln Ala Glu Arg Lys Asp Asp Ser His  
 145 150 155 160  
 Pro Val His Val Asp Asn Cys Ile Leu Asn Ala Glu Thr Leu Val Cys  
 165 170 175  
 Val Lys Glu Pro Pro Ala Tyr Thr Phe Arg Asp Tyr Ser Ala Ile Leu  
 180 185 190  
 Tyr Leu Asn Gly Asp Phe Asp Gly Gly Asn Phe Tyr Phe Thr Glu Leu  
 195 200 205  
 Asp Ala Lys Thr Val Thr Ala Glu Val  
 210 215

<210> 4997  
 <211> 1888  
 <212> DNA  
 <213> Homo sapiens

<400> 4997  
 ntgcacgggg ccactaggac cctcgggcgc cttccccc ccccgccctg cccctctcc  
 60  
 cgccgcgcgg acccgggcgt tctcggcgcc cagcttttga gctcgcgctc ccaggccggc  
 120  
 ggggggggag ggggaagagag gggaccctgg gacccccgcc cccccaccc ggccgcccct  
 180

gccccccggg acccgagaa gatgtcttcg cggacgggtgc tggccccggg caacgatcgg  
240  
aactcggaca cgcattggcac cttggggcagt ggccgctcct cggacaaagg cccgtcctgg  
300  
tccagccgct cactgggtgc ccgttgccgg aactccatcg cctcctgtcc cgaggagcag  
360  
ccccacgtgg gcaactaccg cctgctgagg accattggga agggcaactt tgccaaagtc  
420  
aagctggctc ggcacatcct cactgggtcgg gaggttgcca tcaagattat cgacaaaacc  
480  
cagctgaatc ccagcagcct gcagaagctg ttccgagaag tccgcatcat gaagggccta  
540  
aaccacccca acatcgtgaa gctctttgag gtgattgaga ctgagaagac gctgtacctg  
600  
gtgatggagt acgcaagtgc tggtagagccg cccaccctct ccgccctgcc cctgtgccac  
660  
ctccccctgc cgctgcacct gaccctgacc ccgctcggcc tctgccctgc aggagaagtg  
720  
tttgactacc tcgtgtcgca tggccgcatg aaggagaagg aagctcgagc caagttccga  
780  
cagattgttt cggtgtgca ctattgtcac cagaaaaata ttgtacacag ggacctgaag  
840  
gctgagaacc tcttgctgga tgccgaggcc aacatcaaga ttgctgactt tggcttcagc  
900  
aacgagttca cgctgggatc gaagctggac acgttctgcg ggagcccccc atatgccgcc  
960  
ccggagctgt ttcagggcaa gaagtacgac gggccggagg tggacatctg gagcctggga  
1020  
gtcatcctgt acaccctcgt cagcggctcc ctgcccttcg acgggcacaa cctcaaggag  
1080  
ctgctgggagc gactactcaa aggaagtac cgggtccctt tctacatgtc aacagactgt  
1140  
gagagcatcc tgcggagatt tttggtgctg aaccagcta aacgctgtac tctcgagcaa  
1200  
atcatgaaag acaaatggat caacatcggc tatgagggtg aggagttgaa gccatacaca  
1260  
gagcccgagg aggacttcgg ggacaccaag agaattgagg tgatgggtggg tatgggctac  
1320  
acacgggaag aaatcaaaga gtccttgacc agccagaagt acaacgaagt gaccgccacc  
1380  
tacctcctgc tgggcaggaa gactgagccc gacgagcacg ggggaggcgg agctgaagga  
1440  
ggagcggctg ccaggccgga aggcgagctg cagcaccgcg gggagtggga gtcgagggtc  
1500  
gccccctcc agcccatgg tcagcagcgc ccacaacccc aacaaggcag agatcccaga  
1560  
gcggcggaag gacagcacga gcacccccgt gactgaccag ggctgggggg cagggtcggg  
1620  
ggcgccacct gggccacatt cctcaggccc tgccttcac tcattcccca gacggaactc  
1680  
cttcttacca actccttctt ctaccattc attcattcaa caaacattta tcgagtgcct  
1740  
ctgtttgcct gagctcagtt tatacactaa catttgatgt tagcgtataa attagtgttc  
1800

tgtgtcaaag aagtgcagaa cgtactcttg gcagaaagga tttataacag gaaattaagt  
 1860  
 gcttttaaaa atgtgggaaa ggccaggc  
 1888

<210> 4998  
 <211> 464  
 <212> PRT  
 <213> Homo sapiens

<400> 4998

Met	Ser	Ser	Arg	Thr	Val	Leu	Ala	Pro	Gly	Asn	Asp	Arg	Asn	Ser	Asp
1				5					10					15	
Thr	His	Gly	Thr	Leu	Gly	Ser	Gly	Arg	Ser	Ser	Asp	Lys	Gly	Pro	Ser
			20					25					30		
Trp	Ser	Ser	Arg	Ser	Leu	Gly	Ala	Arg	Cys	Arg	Asn	Ser	Ile	Ala	Ser
		35					40				45				
Cys	Pro	Glu	Glu	Gln	Pro	His	Val	Gly	Asn	Tyr	Arg	Leu	Leu	Arg	Thr
	50					55				60					
Ile	Gly	Lys	Gly	Asn	Phe	Ala	Lys	Val	Lys	Leu	Ala	Arg	His	Ile	Leu
65					70					75					80
Thr	Gly	Arg	Glu	Val	Ala	Ile	Lys	Ile	Ile	Asp	Lys	Thr	Gln	Leu	Asn
				85					90					95	
Pro	Ser	Ser	Leu	Gln	Lys	Leu	Phe	Arg	Glu	Val	Arg	Ile	Met	Lys	Gly
			100					105					110		
Leu	Asn	His	Pro	Asn	Ile	Val	Lys	Leu	Phe	Glu	Val	Ile	Glu	Thr	Glu
		115					120					125			
Lys	Thr	Leu	Tyr	Leu	Val	Met	Glu	Tyr	Ala	Ser	Ala	Gly	Glu	Pro	Pro
	130					135				140					
Thr	Leu	Ser	Ala	Leu	Pro	Leu	Cys	His	Leu	Pro	Leu	Pro	Leu	His	Leu
145					150					155					160
Thr	Leu	Thr	Pro	Leu	Gly	Leu	Cys	Pro	Ala	Gly	Glu	Val	Phe	Asp	Tyr
				165					170					175	
Leu	Val	Ser	His	Gly	Arg	Met	Lys	Glu	Lys	Glu	Ala	Arg	Ala	Lys	Phe
			180					185					190		
Arg	Gln	Ile	Val	Ser	Ala	Val	His	Tyr	Cys	His	Gln	Lys	Asn	Ile	Val
	195					200						205			
His	Arg	Asp	Leu	Lys	Ala	Glu	Asn	Leu	Leu	Leu	Asp	Ala	Glu	Ala	Asn
	210					215					220				
Ile	Lys	Ile	Ala	Asp	Phe	Gly	Phe	Ser	Asn	Glu	Phe	Thr	Leu	Gly	Ser
225				230						235					240
Lys	Leu	Asp	Thr	Phe	Cys	Gly	Ser	Pro	Pro	Tyr	Ala	Ala	Pro	Glu	Leu
				245					250					255	
Phe	Gln	Gly	Lys	Lys	Tyr	Asp	Gly	Pro	Glu	Val	Asp	Ile	Trp	Ser	Leu
			260					265					270		
Gly	Val	Ile	Leu	Tyr	Thr	Leu	Val	Ser	Gly	Ser	Leu	Pro	Phe	Asp	Gly
		275				280						285			
His	Asn	Leu	Lys	Glu	Leu	Arg	Glu	Arg	Val	Leu	Lys	Gly	Lys	Tyr	Arg
	290					295					300				
Val	Pro	Phe	Tyr	Met	Ser	Thr	Asp	Cys	Glu	Ser	Ile	Leu	Arg	Arg	Phe
305					310					315					320
Leu	Val	Leu	Asn	Pro	Ala	Lys	Arg	Cys	Thr	Leu	Glu	Gln	Ile	Met	Lys
				325					330					335	
Asp	Lys	Trp	Ile	Asn	Ile	Gly	Tyr	Glu	Gly	Glu	Glu	Leu	Lys	Pro	Tyr

			340					345					350				
Thr	Glu	Pro	Glu	Glu	Asp	Phe	Gly	Asp	Thr	Lys	Arg	Ile	Glu	Val	Met		
			355					360					365				
Val	Gly	Met	Gly	Tyr	Thr	Arg	Glu	Glu	Ile	Lys	Glu	Ser	Leu	Thr	Ser		
			370					375					380				
Gln	Lys	Tyr	Asn	Glu	Val	Thr	Ala	Thr	Tyr	Leu	Leu	Leu	Gly	Arg	Lys		
385						390				395					400		
Thr	Glu	Pro	Asp	Glu	His	Gly	Gly	Gly	Gly	Ala	Glu	Gly	Gly	Ala	Ala		
				405					410					415			
Ala	Arg	Pro	Glu	Gly	Glu	Leu	Gln	His	Arg	Gly	Glu	Trp	Glu	Ser	Arg		
			420					425					430				
Ala	Ala	Pro	Leu	Gln	Pro	His	Gly	Gln	Gln	Arg	Pro	Gln	Pro	Gln	Gln		
		435					440					445					
Gly	Arg	Asp	Pro	Arg	Ala	Ala	Glu	Gly	Gln	His	Glu	His	Pro	Arg	Glu		
	450					455					460						

&lt;210&gt; 4999

&lt;211&gt; 1630

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4999

gcggccgcgg ccgatggggg caccgtggac ttgcgcgaga tgctggctgt gtcagtgtctg  
 60  
 gccgcagtcc gcggcggcga cgaggtgagg cgcgccgcg agagcaacgt cctccacgag  
 120  
 aagtccaagg ggaagacgcg cgagggagcc gaggacaaga tgaccagcgg cgacgtgtctg  
 180  
 tccaaccgca agatgttcta cctgtctcaag accgccttcc ccagcgtcca gattaatact  
 240  
 gaggaacacg tggatgcagc tgatcaggag gttatcttgt gggatcataa gattcctgag  
 300  
 gatatcctaa aggaagtaac tactcctaaa gaggtaccag cagaaagtgt tactgtctgg  
 360  
 attgaccac ttgatgttac acaggaatat acagaggatc ttcgaaagta cgtcactact  
 420  
 atggtgtgtg tggctgtaaa tggtaaacc atgctaggag ttatacataa gccattttcc  
 480  
 gaatatacag cttgggcaat ggtagatggg ggttcaaagt tgaaagcccc ctcttcctac  
 540  
 aatgagaaga cccaaggat cgttgtgtct cgttcccatt cagggatggg caaacaggtc  
 600  
 gctcttcaga cttttggaaa ccagactaca attatcccag ctggtggtgc tggttataaa  
 660  
 gtttttagcac ttttgatgt gcctgataag agtcaagaaa aagctgattt atacatccat  
 720  
 gtgacataca tcaaaaagtg ggatatatgt gctggtaatg ccatcttaaa agccctaggg  
 780  
 gggcatatga ctaccctgag tggatgaaga atcagttaca ctgggtcaga cggcattgaa  
 840  
 gggggactcc ttgctagcat cagaatgaac caccaggccc tggtcagaaa actcccagat  
 900  
 ctagaaaaga caggacataa atgagcataa ctgattacag ggtacagttc ttcacagctg  
 960



aaatgggttag cctgagatgc tggaagcttc aaaggattgg tggagactat gcatgggttaa  
 1020  
 ggccatcccg aacttttttaa agtatttatg aagcatcaga gacttatttt ccctgtaata  
 1080  
 gaatgcaaaa tcagggaaaa tgggttgctt tgtgtctcaa gtattgtcctt tatttttgag  
 1140  
 actattttca tacagttgtc atacacaagg cgcataatata tatttgtgaa ttaaaatctg  
 1200  
 tagctgagtc tacattgtta tgagtcacca ttttcacaca acatcatgaa tcttcactgt  
 1260  
 tagtactttc atatagaatt cgggtgaagg aaagattgat ttttgtgtag atgtttaata  
 1320  
 taactttaca actatatctc attgaaaata aagtcattgg ggatttttac ctctaatttg  
 1380  
 gatggaaagc acaagaagcc acacattcat taatatgcaa caaatgttgt atttatgtta  
 1440  
 ctgaatatatt ctatggatta aaatagaaaa agtttaattg attttttctt ttaaatttta  
 1500  
 ataacaggtt caccagctgg tagaaaatag agacacatga tgatttgcac tgtaataatt  
 1560  
 tctgtgtgta tgtgtgtgtg ttgttttggt tttataaaga aaagtgtgtt tgtacccatg  
 1620  
 agttcagcat  
 1630

<210> 5000

<211> 307

<212> PRT

<213> Homo sapiens

<400> 5000

Ala	Ala	Ala	Ala	Asp	Gly	Gly	Thr	Val	Asp	Leu	Arg	Glu	Met	Leu	Ala
1				5					10					15	
Val	Ser	Val	Leu	Ala	Ala	Val	Arg	Gly	Gly	Asp	Glu	Val	Arg	Arg	Val
			20					25					30		
Arg	Glu	Ser	Asn	Val	Leu	His	Glu	Lys	Ser	Lys	Gly	Lys	Thr	Arg	Glu
		35					40					45			
Gly	Ala	Glu	Asp	Lys	Met	Thr	Ser	Gly	Asp	Val	Leu	Ser	Asn	Arg	Lys
	50					55					60				
Met	Phe	Tyr	Leu	Leu	Lys	Thr	Ala	Phe	Pro	Ser	Val	Gln	Ile	Asn	Thr
65					70					75				80	
Glu	Glu	His	Val	Asp	Ala	Ala	Asp	Gln	Glu	Val	Ile	Leu	Trp	Asp	His
			85					90						95	
Lys	Ile	Pro	Glu	Asp	Ile	Leu	Lys	Glu	Val	Thr	Thr	Pro	Lys	Glu	Val
			100					105					110		
Pro	Ala	Glu	Ser	Val	Thr	Val	Trp	Ile	Asp	Pro	Leu	Asp	Ala	Thr	Gln
		115					120					125			
Glu	Tyr	Thr	Glu	Asp	Leu	Arg	Lys	Tyr	Val	Thr	Thr	Met	Val	Cys	Val
	130					135					140				
Ala	Val	Asn	Gly	Lys	Pro	Met	Leu	Gly	Val	Ile	His	Lys	Pro	Phe	Ser
145					150					155				160	
Glu	Tyr	Thr	Ala	Trp	Ala	Met	Val	Asp	Gly	Ser	Asn	Val	Lys	Ala	
			165					170					175		
Arg	Ser	Ser	Tyr	Asn	Glu	Lys	Thr	Pro	Arg	Ile	Val	Val	Ser	Arg	Ser

<400> 5001					
tccggaccga	gggacgcggt	tactccacag	gatccgctga	acataggatg	ttgccacaaa
60					
atctacctcg	tgtatTTTTc	tctttcactc	atgagctgca	caattgcaga	tttgagcaca
120					
atgtctgcag	actgtgttga	aaaactctga	agaacctaat	taacacagga	tgacctagga
180					
gtgattctaa	gtctgtgtaa	caagatatta	ctcattagt	aatgtgtcag	tcttggtact
240					
gaatgctgca	gataacagca	agtaggttct	cctttatttc	tgaagtattc	acttgacctt
300					
ccatcagtaa	gacggacttt	tctaactctgt	tcttggagat	attaatggaa	tacagtcatg
360					
tccactcaag	acgagaggca	gatcaatact	gaatatgctg	tgtcattggt	ggaacagttg
420					
aaactgtttt	atgaacagca	gttgtttact	gacatagtgt	taattgttga	gggcactgaa
480					
ttcccttgtc	ataagatgg	tcttgcaaca	tgtagctctt	atttcagggc	catgtttatg
540					
agtggactaa	gtgaaagcaa	acaaacccat	gtacacctga	ggaatgtcga	tgctgccacc
600					
ttacagataa	taataactta	tgcatacacg	ggtaacttgg	caatgaatga	cagcactgta
660					
gaacagcttt	atgaaacagc	ttgcttctta	caggtagaag	atgtgttaca	acgttgtcga
720					
gaatatttaa	ttaaaaaaat	aaatgcagag	aattgtgtac	gattgttgag	ttttgctgat
780					
ctcttcagtt	gtgaggaatt	aaaacagagt	gctaaaagaa	tggtggagca	caagttcact
840					
gctgtgtatc	atcaggacgc	gttcatgcag	ctgttacatg	acctactgat	agatattctc
900					

agtagtgaca atttaaagt agaaaaggaa gaaaccgttc gagaagctgc tatgctgtgg  
960  
ctagagtata acacagaatc acgatcccag tatttgtctt ctgttcttag ccaaatacaga  
1020  
attgatgcac tttcagaagt aacacagaga gcttggtttc aaggctctgcc acccaatgat  
1080  
aagtcagtgg tgggtcaagg tctgtataag tccatgccc agtttttcaa accaagactt  
1140  
gggatgacta aagaggaaat gatgattttc attgaagcat cttcagaaaa tccttgtagt  
1200  
ctttactctt ctgtctgtta cagcccccaa gcagaaaaag tttacaagtt atgtagccca  
1260  
ccagctgatt tgcataagg tgggaccgtt gtaactcctg ataatagat ctacatagca  
1320  
gggggtcaag ttctctgna aaaacacaaa aacaaatcac agtaaaacaa gcaaacttca  
1380  
gactgccttc agaactgtga attgctttta ttggtttgat gcacagcaaa atacctgggt  
1440  
tccaaagacc ccaatgcttt ttgtccgcat aaagccatct ttggtttgct gtgaaggcta  
1500  
tatctatgca attggaggag atagcgtagg tggagaactt aatcggagga ccgtagaaag  
1560  
atacgacact gagaaagatg agtggacgat ggtaagccct ttaccttggtg cttggcaatg  
1620  
gagtgcagca gttgtggttc atgactgcat ttatgtgatg aactgaacc tcatgtactg  
1680  
ttattttcca aggtctgact catgggtaga aatggccatg agacagacta gtaggtcctt  
1740  
tgcttcagct gcagcttttg gtgataaaat tttctatatt ggaggggtgc atattgctac  
1800  
caattccggc ataagactcc cctctggcac tgtagatggg tcttcagtaa ctgtggaat  
1860  
ttatgatgtg aataaaaatg agtggaaaat ggcagccaac atccctgcta agaggctact  
1920  
tgaccctgt gttagagctg ttgtgatctc aaattctcta tgtgtgttta tgcgagaaac  
1980  
ccacttaaat gagcgagcta aatacgtcac ctaccaatat gacctggaac ttgaccggtg  
2040  
gtctctgcgg cagcatatat ctgaacgtgt actgtgggac ttggggagag attttcgatg  
2100  
cactgtgggg aaactctatc catcctgcct tgaagagtct ccatggaaac caccaactta  
2160  
tctttttca acggatggga cagaagagtt tgaactggat ggagaaatgg ttgcactacc  
2220  
acctgtatag tggggaagtt cagggagtgc acgcctgagt tatgtgcttt gtcattttct  
2280  
ttgctaaaca aaagaggcta tgaaagaact aaatatgagt acataaaatt ctatctttga  
2340  
taaattttat ttttatgccc tacttaatat ttgcatcagt ataatatata tcagtgagtc  
2400  
ttacagaaag atatgcttcc ataatatgaa atagattatt caataattga gaaactttat  
2460  
gtgtaatcat gagagtataa gaatctggat tatctaact tgtagccct gtgtatgtac  
2520

agttcaaaaa gttcatttat aaaagtagtt tcctgttcct agtgtgatgt atcacaaatt  
 2580  
 gtgctgaggt tatttttagta tgtgtgtttc attcccgtgc ttctgttctg aagtcctgga  
 2640  
 atacagtttt cagtgttaatt aattcaactg cacttaacac taatgtccgt gttggtatag  
 2700  
 aaatgtctaa atcctatact ctagttgagg aagatcttcc ataattttat ggtattacac  
 2760  
 agggaaaagct atgactgcag gatcagtcta actatactat taggtgcatg tattctcttt  
 2820  
 tcactaactt atacttgtct atctagaata caggtcttcc agtcagctgg tcatttacca  
 2880  
 ggtgtggact taagttgctg ggcttgagc aagaattgcc agccactcat tgtgcgggtc  
 2940  
 tgcgtggagc tttaatcaga aaaagcctcc actttctgta ttatgttaac attggctcat  
 3000  
 gcatataact atctgctgct gatgtagttc tccatcttca agatttagag tgggttaacc  
 3060  
 aggtcattac atcttaattt aataacaagc attactgtag agtgattgtg tatagatctg  
 3120  
 ttagctgtca ggggtgtgtt tttttaacct gttgtgtgctg tgtgggggtt aggattagta  
 3180  
 aggtgaactg ttcaggaatt ctctgcacta gctgtgcaga agagcagata actagcgctg  
 3240  
 ctctggcatt aatcccagga accactagca gtagtggggc gccgccaatc taacatgagc  
 3300  
 acaggtgctt catgacaaac attactagca tgttcaactg caccatgttc tggcactgta  
 3360  
 ttttgaatga cattaattta ttaaataaat tgtatatatt caaaaaaaaa aaaaaaaaaa  
 3420  
 aaaaaaa  
 3427

&lt;210&gt; 5002

&lt;211&gt; 335

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5002

Met	Ser	Thr	Gln	Asp	Glu	Arg	Gln	Ile	Asn	Thr	Glu	Tyr	Ala	Val	Ser
1				5					10					15	
Leu	Leu	Glu	Gln	Leu	Lys	Leu	Phe	Tyr	Glu	Gln	Gln	Leu	Phe	Thr	Asp
			20					25					30		
Ile	Val	Leu	Ile	Val	Glu	Gly	Thr	Glu	Phe	Pro	Cys	His	Lys	Met	Val
			35				40					45			
Leu	Ala	Thr	Cys	Ser	Ser	Tyr	Phe	Arg	Ala	Met	Phe	Met	Ser	Gly	Leu
			50				55				60				
Ser	Glu	Ser	Lys	Gln	Thr	His	Val	His	Leu	Arg	Asn	Val	Asp	Ala	Ala
65					70				75					80	
Thr	Leu	Gln	Ile	Ile	Ile	Thr	Tyr	Ala	Tyr	Thr	Gly	Asn	Leu	Ala	Met
			85					90					95		
Asn	Asp	Ser	Thr	Val	Glu	Gln	Leu	Tyr	Glu	Thr	Ala	Cys	Phe	Leu	Gln
			100					105					110		
Val	Glu	Asp	Val	Leu	Gln	Arg	Cys	Arg	Glu	Tyr	Leu	Ile	Lys	Lys	Ile

```
<210> 5003
<211> 3729
<212> DNA
<213> Homo sapiens
```

```
<400> 5003
ncagggtgggc ccttgcccac cccaccctgg gaaggctggg ccaggatggg gcaggcacct
60
caccccggcc aggaacagga acgggcacca tctcggggac tgatgttttt tgaatggcgc
120
tatccaccct gccctgctcg gcctggctgt gcaggcctct tggtagcacg tctgttcgta
180
atgaccgtaa caactctatt ttcttcaca gatgactctg gggacgacga cgaggctacc
240
acccagccg acaagagcga gctgcaccac accctgaaga atctttccct gaagttagat
300
gacctcagca cgtgcaatga cctcatcgcc aagcatggcg ctgccctcca gcgctccctg
360
aatgagctgg acggcctcaa gatcccatct gagagtgggg agaagctgaa ggtggtgaat
420
gagcggggcca ccctcttccg catcacatcc aatgctatga tcaacgcctg cagggacttc
480
ttggaactag cagagataca cagtcggaaa tggcagcggg cactgcagta tgagcaggag
540
cagcgcgtgc acttgaggga aaccattgag cagctggcga agcagcacia cagcctcagag
600
```

cgggccttcc acagtgcccc tggccggccg gccaacccct ccaagagctt cattgagggga  
660  
agcctcttga ctcccaaagg agaggacagt gaggaagatg aagataaccga gtactttgat  
720  
gccatggaag actccacatc cttcatcacc gtgatcaccg aggccaagga agacagcaga  
780  
aaagctgaag gtagcaccgg gacaagttcc gtggactgga gctcagcaga caatgtacta  
840  
gatggtgcct cgctcgtgcc caagggttca tccaaagtca agaggcgagt ccgcattccc  
900  
aacaagccca actacagcct taacctctgg agcatcatga agaactgcat cggccgggag  
960  
ctctccagga tccccatgcc ggtgaacttc aatgagcccc tgtccatgct ccagcggctg  
1020  
acagaggacc tggagtacca ccacctgctg gacaaggcag tgcactgcac cagctcagtg  
1080  
gagcagatgt gcctgggtggc cgccttctct gtgtcctcct actccaccac agtgcaccgc  
1140  
atcgccaagc ctttcaaccc catgctgggg gagaccttcg agctggaccg cctcgacgac  
1200  
atgggcctgc gtcacctctg tgagcagggt agccaccacc cccctcagc tgcgcactac  
1260  
gtgttctcca agcatggctg gagcctctgg caggagatca ccatctccag caagttccgg  
1320  
ggaaaataca tctccatcat gccgctaggt gccatccact tagaattcca ggccagtggg  
1380  
aatcactacg tgtggaggaa gagcacctca actgttcaca acatcatcgt gggcaagctc  
1440  
tggatcgacc agtcagggga catcgagatt gtgaaccata agaccaatga ccggtgccag  
1500  
ctgaagttcc tgccctacag ctacttctcc aaagaggcag cccggaaggt gacaggagtg  
1560  
gtgagtgaca gccagggcaa ggccattac gtgctgtccg gctcgtggga tgaacaaatg  
1620  
gagtgtcca aggtcatgca tagcagtccc agcagcccca gctctgacgg gaagcagaag  
1680  
acagtgtacc agaccctgtc agccaagctg ctgtggaaga agtaccgct gccggagaac  
1740  
gcggagaaca tgtactactt ctcagagctg gccctgacct tcaacgagca cgaggagggc  
1800  
gtagcgccaa ccgacagccg cctgcggccc gaccagcggc tgatggagaa gggccgttgg  
1860  
gacgaggcca ataccgagaa gcagcggctg gaggagaagc agcgccgtgc gcggcgccgg  
1920  
cggctggagg cctgcggggc gggcagcagc tgcagctcgg aggaaggatga ggccgggagg  
1980  
gaagggcgcc ccggagggga ggaaaggggt gcccggttgg ggggtgccga gggacggatt  
2040  
ccgggggagc aggccacaag cccaccacc agccactgt gcctgcccag cagagaagga  
2100  
ggcggtatgcc tacacgccac tgtggtttga gaagaggctg gatccgctga ctggggagat  
2160  
ggcctgtgtg tacaagggcg gctactggga ggccaaggag aagcaagact ggcataatgtg  
2220

ccccaacatc ttctgagcgc cacccttgca acaaatacag gcgcctgcac agcctggccc  
2280  
acctgttcat taatgcactc aatttagtac tgaatggtct ttctcccagc ccattcccag  
2340  
cccttccatc ttcccttccct attttttttt cccccacac tttcttggga ctcccacctt  
2400  
ggaaggagga agggctgacc tgggttctct ccagccccc ggtgcgcgg gtcacccgtg  
2460  
ccccctcatt atggacctgg gccctaccgg aaccctgcc ccagttacca caactcaggc  
2520  
cggctggccc gggccatggg ctgcgcaa at caccagcccc caaccagggg aggaactggc  
2580  
ccctcctagg gagcctcttc gactttttta gaaaaatgat ctccatttct ttccagccat  
2640  
gatgtttagt aaatatTTTT agtaccgcac ttagcagaca gctttccaag tgtgctttct  
2700  
tgccacaaaa gtgtcctggc aagagcccct tatttttaag acatcaggaa gccagaccgc  
2760  
tttgagttgg gagaattttg tagctcaaca tatcaagtcc tcgatgggat ctgagctgcc  
2820  
cacaccccca cctgccaagg cccacagag cccaaaacag aagggggctg cccagccca  
2880  
gcagagcaca gagtttctgg agctcccatc cacagatgca ggagggggta ctgatggtaa  
2940  
cccccatgtg gatattgagg cagcagtcct tggcctcacc ctagccagcc tgggtggctc  
3000  
cctagcccca agaggccagg aagggtgga aggcagggcc tgcaggtgct cccgcctg  
3060  
agaccaggc cccaaatcag caataatgaa caaaccttg gccagcctg ggctggtgac  
3120  
ctgggcacca gagacctgc atccctctc atcctaggag gccctaggg gtgccccatc  
3180  
tcagtgtccc ctgaactctt tatttgcta atttatatat atatatatga gatataaaa  
3240  
tatatataaa atagctattt tgcttaaat tctacagtat gtaaaagtga aaaaatgatg  
3300  
aagacgggtg cacctgtctg agtttggccc tcatgtgagc tgtgccctc cctctctca  
3360  
tgcccccttc cagcggcttc tgccaacct ggggggctgg accaccatgg cactgaccc  
3420  
agcccctcag aatcccacac tccaatcct tccatttcag tttagtcta aaagttcatc  
3480  
acagggtctt tctttctact ccaggactgg ttttgTTTT atatataaa aaaaaaaag  
3540  
tgaaaacacc aatgtgtgaa atgccttaca atgcccactg gagaggcggg gcgggggtggg  
3600  
gcaggatggc cccactaggg ctctacaga gctgtggaat gtacctctcc ccaacactgt  
3660  
tttgtagcg agcaccttt gaccagtaat aaaaaacctt ggctttggag tttccactg  
3720  
aaaaaaaaa  
3729

&lt;210&gt; 5004

<211> 642  
 <212> PRT  
 <213> Homo sapiens

<400> 5004

Ser	Ser	Thr	Asp	Asp	Ser	Gly	Asp	Asp	Asp	Glu	Ala	Thr	Thr	Pro	Ala		
1				5					10					15			
Asp	Lys	Ser	Glu	Leu	His	His	Thr	Leu	Lys	Asn	Leu	Ser	Leu	Lys	Leu		
			20					25					30				
Asp	Asp	Leu	Ser	Thr	Cys	Asn	Asp	Leu	Ile	Ala	Lys	His	Gly	Ala	Ala		
		35					40					45					
Leu	Gln	Arg	Ser	Leu	Asn	Glu	Leu	Asp	Gly	Leu	Lys	Ile	Pro	Ser	Glu		
50					55					60							
Ser	Gly	Glu	Lys	Leu	Lys	Val	Val	Asn	Glu	Arg	Ala	Thr	Leu	Phe	Arg		
65				70					75					80			
Ile	Thr	Ser	Asn	Ala	Met	Ile	Asn	Ala	Cys	Arg	Asp	Phe	Leu	Glu	Leu		
			85					90					95				
Ala	Glu	Ile	His	Ser	Arg	Lys	Trp	Gln	Arg	Ala	Leu	Gln	Tyr	Glu	Gln		
			100					105					110				
Glu	Gln	Arg	Val	His	Leu	Glu	Glu	Thr	Ile	Glu	Gln	Leu	Ala	Lys	Gln		
	115					120				125							
His	Asn	Ser	Leu	Glu	Arg	Ala	Phe	His	Ser	Ala	Pro	Gly	Arg	Pro	Ala		
130					135					140							
Asn	Pro	Ser	Lys	Ser	Phe	Ile	Glu	Gly	Ser	Leu	Leu	Thr	Pro	Lys	Gly		
145				150					155					160			
Glu	Asp	Ser	Glu	Glu	Asp	Glu	Asp	Thr	Glu	Tyr	Phe	Asp	Ala	Met	Glu		
			165					170					175				
Asp	Ser	Thr	Ser	Phe	Ile	Thr	Val	Ile	Thr	Glu	Ala	Lys	Glu	Asp	Ser		
		180						185					190				
Arg	Lys	Ala	Glu	Gly	Ser	Thr	Gly	Thr	Ser	Ser	Val	Asp	Trp	Ser	Ser		
	195						200					205					
Ala	Asp	Asn	Val	Leu	Asp	Gly	Ala	Ser	Leu	Val	Pro	Lys	Gly	Ser	Ser		
210					215					220							
Lys	Val	Lys	Arg	Arg	Val	Arg	Ile	Pro	Asn	Lys	Pro	Asn	Tyr	Ser	Leu		
225				230					235					240			
Asn	Leu	Trp	Ser	Ile	Met	Lys	Asn	Cys	Ile	Gly	Arg	Glu	Leu	Ser	Arg		
			245					250					255				
Ile	Pro	Met	Pro	Val	Asn	Phe	Asn	Glu	Pro	Leu	Ser	Met	Leu	Gln	Arg		
	260							265					270				
Leu	Thr	Glu	Asp	Leu	Glu	Tyr	His	His	Leu	Leu	Asp	Lys	Ala	Val	His		
	275						280					285					
Cys	Thr	Ser	Ser	Val	Glu	Gln	Met	Cys	Leu	Val	Ala	Ala	Phe	Ser	Val		
290						295					300						
Ser	Ser	Tyr	Ser	Thr	Thr	Val	His	Arg	Ile	Ala	Lys	Pro	Phe	Asn	Pro		
305				310					315					320			
Met	Leu	Gly	Glu	Thr	Phe	Glu	Leu	Asp	Arg	Leu	Asp	Asp	Met	Gly	Leu		
			325					330					335				
Arg	Ser	Leu	Cys	Glu	Gln	Val	Ser	His	His	Pro	Pro	Ser	Ala	Ala	His		
	340						345					350					
Tyr	Val	Phe	Ser	Lys	His	Gly	Trp	Ser	Leu	Trp	Gln	Glu	Ile	Thr	Ile		
	355					360					365						
Ser	Ser	Lys	Phe	Arg	Gly	Lys	Tyr	Ile	Ser	Ile	Met	Pro	Leu	Gly	Ala		
370					375						380						
Ile	His	Leu	Glu	Phe	Gln	Ala	Ser	Gly	Asn	His	Tyr	Val	Trp	Arg	Lys		



```

385          390          395          400
Ser Thr Ser Thr Val His Asn Ile Ile Val Gly Lys Leu Trp Ile Asp
          405          410          415
Gln Ser Gly Asp Ile Glu Ile Val Asn His Lys Thr Asn Asp Arg Cys
          420          425          430
Gln Leu Lys Phe Leu Pro Tyr Ser Tyr Phe Ser Lys Glu Ala Ala Arg
          435          440          445
Lys Val Thr Gly Val Val Ser Asp Ser Gln Gly Lys Ala His Tyr Val
          450          455          460
Leu Ser Gly Ser Trp Asp Glu Gln Met Glu Cys Ser Lys Val Met His
465          470          475          480
Ser Ser Pro Ser Ser Pro Ser Ser Asp Gly Lys Gln Lys Thr Val Tyr
          485          490          495
Gln Thr Leu Ser Ala Lys Leu Leu Trp Lys Lys Tyr Pro Leu Pro Glu
          500          505          510
Asn Ala Glu Asn Met Tyr Tyr Phe Ser Glu Leu Ala Leu Thr Leu Asn
          515          520          525
Glu His Glu Glu Gly Val Ala Pro Thr Asp Ser Arg Leu Arg Pro Asp
          530          535          540
Gln Arg Leu Met Glu Lys Gly Arg Trp Asp Glu Ala Asn Thr Glu Lys
545          550          555          560
Gln Arg Leu Glu Glu Lys Gln Arg Leu Ser Arg Arg Arg Arg Leu Glu
          565          570          575
Ala Cys Gly Pro Gly Ser Ser Cys Ser Ser Glu Glu Gly Glu Ala Gly
          580          585          590
Arg Glu Gly Arg Pro Gly Gly Glu Glu Arg Gly Ala Arg Val Gly Val
          595          600          605
Pro Gln Gly Arg Ile Pro Gly Glu Gln Ala Thr Ser Pro Pro Thr Ser
          610          615          620
Pro Leu Cys Leu Pro Ser Arg Glu Gly Gly Gly Cys Leu His Ala Thr
625          630          635          640
Val Val

```

&lt;210&gt; 5005

&lt;211&gt; 1120

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5005

```

ntcgggctgt tgctgtggtt tcctgagttg ctgctgctgc ggcggcggca gcggcgtctg
60
tgcttggtgga ggtgtcggcc tctgggcgga tggtgacatt gtgttggtgt tattgctgat
120
ggtaatggcg gcggcgggtg cggcgacggt ccagacccca tcccctctgt agccggagcc
180
gagacagccg acagcgaact ccgcggcctc ggagccggcg gcagcggcga ctcccctcag
240
cctccgccgc ctgcgccgcc ggtaccccg ggcgaacccc gggagtcagg ccctttgggc
300
aggggagctc ggaggctcag gatggcggat ttcgacgaaa tctatgagga agaggaggac
360
gaggagcggg ccctggagga gcagctgctc aagtactcgc cggaccgggt ggtcgtccgc
420

```

ggctccggtc acgtcacctg atttggactg agcaacaaat ttgaatctga attcccttct  
 480  
 tcattaactg gaaaagtagc tcctgaagaa tttaaagcca gcatcaacag agttaacagt  
 540  
 tgtcttaaga agaaccttcc tgtaaatgta cgttggctac tttgtggctg cctttgttgc  
 600  
 tgctgcacat taggttgacg tatgtggcca gttatttgcc tcagtaaaag aacacgaaga  
 660  
 tcgattgaga agttattaga atgggaaaac aatagggttat accacaagct gtgcttgcat  
 720  
 tggagactga gcaaaaggaa atgtgaaacg aataacatga tggaatatgt catcctcata  
 780  
 gaatttttac caaagacacc gatttttcga ccagattagc atttacttta tttatagaga  
 840  
 ctttccaagt atgttgtctt tccaatggtg ccttgcttgg tgctctcctg gtggtgacat  
 900  
 aacattgggt ctacagaatc gtgtgggtgt ttttttgttt ttgttttttt ttttttttta  
 960  
 aataaccgca tgttctaagt gtgcattttt gtcaatcttt gcaacagtta tttcatacag  
 1020  
 atgtttaata cttaagttat tgtgctcttt tctgttatgt attctgattt tcaaggatta  
 1080  
 cttttttgta ttatcaaaaa aatacatgtg aacttagcat  
 1120

&lt;210&gt; 5006

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5006

Met	Ala	Asp	Phe	Asp	Glu	Ile	Tyr	Glu	Glu	Glu	Glu	Asp	Glu	Glu	Arg
1				5				10						15	
Ala	Leu	Glu	Glu	Gln	Leu	Leu	Lys	Tyr	Ser	Pro	Asp	Pro	Val	Val	Val
		20					25						30		
Arg	Gly	Ser	Gly	His	Val	Thr	Val	Phe	Gly	Leu	Ser	Asn	Lys	Phe	Glu
	35					40						45			
Ser	Glu	Phe	Pro	Ser	Ser	Leu	Thr	Gly	Lys	Val	Ala	Pro	Glu	Glu	Phe
	50					55					60				
Lys	Ala	Ser	Ile	Asn	Arg	Val	Asn	Ser	Cys	Leu	Lys	Lys	Asn	Leu	Pro
65				70					75					80	
Val	Asn	Val	Arg	Trp	Leu	Leu	Cys	Gly	Cys	Leu	Cys	Cys	Cys	Cys	Thr
			85					90						95	
Leu	Gly	Cys	Ser	Met	Trp	Pro	Val	Ile	Cys	Leu	Ser	Lys	Arg	Thr	Arg
			100				105						110		
Arg	Ser	Ile	Glu	Lys	Leu	Leu	Glu	Trp	Glu	Asn	Asn	Arg	Leu	Tyr	His
		115					120					125			
Lys	Leu	Cys	Leu	His	Trp	Arg	Leu	Ser	Lys	Arg	Lys	Cys	Glu	Thr	Asn
	130					135					140				
Asn	Met	Met	Glu	Tyr	Val	Ile	Leu	Ile	Glu	Phe	Leu	Pro	Lys	Thr	Pro
145					150					155					160
Ile	Phe	Arg	Pro	Asp											
				165											

<210> 5007  
<211> 2165  
<212> DNA  
<213> Homo sapiens

<400> 5007  
ctgaattcgg ctagaaaatc aagcttttttc cgaatcccag tacagccggg caattcctac  
60  
gcaagcactc ctgaactacg caggaccccg ctggaaagta tggccaagat tcatgccaga  
120  
aacggagatt tatctgaggc tgccatgtgt tacatccata ttgctgcctt cattgcagag  
180  
tatctgaaaa gaaagggcat gttctctatg ggatggccag ctgttttgag cattacacca  
240  
aacattaagg aagaaggagc gatgaaagag gattctggaa tgcaagatac accatacaat  
300  
gagaatatcc tgggtggagca gctatacatg tgtgtggagt ttctctggaa gtctgagcga  
360  
tatgaannct cattgctgat gtcaacaagc ccatcattgc tgtctttgag aaacaacgag  
420  
acttcaaaaa attcagatct ctactacgac attcatcggg catatctgaa agtggcagag  
480  
gtggtgaatt cggaagcggc tgtttggtcg ctactatcgt gtggcattta tgggcagggc  
540  
ttttttgaag aagaagaagg taaagagtat atttataaag agcctaagct gacaggtctg  
600  
tccgagattt cccaagatt actcaagctc tatgcagata aatttgaggc agacaatgtg  
660  
aagataatcc aggattccaa caaggtaaac cccaaggatt tggaccccaa atatgcctac  
720  
atccaggtga cctatgtgac gccgttcttt gaggaaaagg aaatcgaaga ccggaagaca  
780  
gatttcgaaa tgcaccacaa catcaaccgc tttgtcttcg agacaccctt cacgctgtcg  
840  
ggcaagaagc acggtggggg ggcggagcag tgcaagcggc ggacgatcct gacaacgagt  
900  
cacctgttcc cctacgtgaa gaagagaata caagtaatta gccaatcgag cacagaactg  
960  
aatccaattg aagtggcaat tgacgagatg tccaagaagg tttctgagct taatcagctt  
1020  
tgcacaatgg aagaagtgga catgatcaga ctgcagctca aactgcaagg aagtgtcagc  
1080  
gtgaaggtta atgctggggc aatggcctat gcacgagctt ttcttgaaga aaccaatgca  
1140  
aagaagtacc ctgacaacca agtaaagctt ttgaaggaga tcttcaggca atttgcagat  
1200  
gcatgtgggc aggcccttga cgtgaatgag cgcctcatca aagaggacca gctggagtac  
1260  
caggaagaac tgagggtccca ctacaaggac atgctcagcg aactctccac agtcatgaat  
1320  
gagcagctct gtcgaggtcc gtgtttatac agcttctgtt cctctgtgtc tagtatttcc  
1380  
ctcagtactg taagcaaaag tgattacggg cagggacgac ctgtcaaagc gcggagtggg  
1440

ccaaacctgc actcgagtaa ttagcaaagc aactccggcc ctacccacgg tctccatctc  
 1500  
 atctagtgtc gaagtctgag ggctctgcag catcagaccc acctctaaga gaactttctg  
 1560  
 aatttgcagc taatctcggg gaagagaaag atagggttaa tttatttgaa gttttcatgg  
 1620  
 tgtaaatatt tttgtttacc tcgctagctt cagaattttg ccaacctctg aatttgcaca  
 1680  
 ttttgtataa tttttttttc tttgagcagt gttgatcaag ccagggtgaa tatttgccat  
 1740  
 gaaattccag tgaatgtgta gctcaaagc aaaccctaag tttgctgtca gttattgtat  
 1800  
 ggtcagtacc ccagtcctag tacacatatt ttaaagggtta aagtgaatgt ttttgtaaca  
 1860  
 ttttaagcata tttcagatgt aaataaaaga ttgtaaaata tacgggtttt accaaattta  
 1920  
 aaagatcctt tttagttaat actatgacag tactaaaaat atatgaataa catttcagat  
 1980  
 accattatat taaaatattt gtgtatgtgt acaaaagcgt tgataaatac taatctttaa  
 2040  
 agtttgtgga gttcctttat ttgtaataata tgtgctctta aaagcaatgg gatgtgaaat  
 2100  
 tatgaaagta ttttattggt catagaaata aaaaacacag ttactttgca aaaaaaaaaa  
 2160  
 aaaaaa  
 2165

<210> 5008  
 <211> 487  
 <212> PRT  
 <213> Homo sapiens

<400> 5008  
 Leu Asn Ser Ala Arg Lys Ser Ser Phe Phe Arg Ile Pro Val Gln Pro  
 1 5 10 15  
 Gly Asn Ser Tyr Ala Ser Thr Pro Glu Leu Arg Arg Thr Arg Leu Glu  
 20 25 30  
 Ser Met Ala Lys Ile His Ala Arg Asn Gly Asp Leu Ser Glu Ala Ala  
 35 40 45  
 Met Cys Tyr Ile His Ile Ala Ala Leu Ile Ala Glu Tyr Leu Lys Arg  
 50 55 60  
 Lys Gly Met Phe Ser Met Gly Trp Pro Ala Val Leu Ser Ile Thr Pro  
 65 70 75 80  
 Asn Ile Lys Glu Glu Gly Ala Met Lys Glu Asp Ser Gly Met Gln Asp  
 85 90 95  
 Thr Pro Tyr Asn Glu Asn Ile Leu Val Glu Gln Leu Tyr Met Cys Val  
 100 105 110  
 Glu Phe Leu Trp Lys Ser Glu Arg Tyr Glu Xaa Ser Leu Leu Met Ser  
 115 120 125  
 Thr Ser Pro Ser Leu Leu Ser Leu Arg Asn Asn Glu Thr Ser Lys Asn  
 130 135 140  
 Ser Asp Leu Tyr Tyr Asp Ile His Arg Ser Tyr Leu Lys Val Ala Glu  
 145 150 155 160  
 Val Val Asn Ser Glu Ala Ala Val Trp Ser Leu Leu Ser Cys Gly Ile

Tyr Gly Gln Gly Phe Phe Glu Glu Glu Glu Gly Lys Glu Tyr Ile Tyr  
 165 170 175  
 180 185 190  
 Lys Glu Pro Lys Leu Thr Gly Leu Ser Glu Ile Ser Gln Arg Leu Leu  
 195 200 205  
 Lys Leu Tyr Ala Asp Lys Phe Gly Ala Asp Asn Val Lys Ile Ile Gln  
 210 215 220  
 Asp Ser Asn Lys Val Asn Pro Lys Asp Leu Asp Pro Lys Tyr Ala Tyr  
 225 230 235 240  
 Ile Gln Val Thr Tyr Val Thr Pro Phe Phe Glu Glu Lys Glu Ile Glu  
 245 250 255  
 Asp Arg Lys Thr Asp Phe Glu Met His His Asn Ile Asn Arg Phe Val  
 260 265 270  
 Phe Glu Thr Pro Phe Thr Leu Ser Gly Lys Lys His Gly Gly Val Ala  
 275 280 285  
 Glu Gln Cys Lys Arg Arg Thr Ile Leu Thr Thr Ser His Leu Phe Pro  
 290 295 300  
 Tyr Val Lys Lys Arg Ile Gln Val Ile Ser Gln Ser Ser Thr Glu Leu  
 305 310 315 320  
 Asn Pro Ile Glu Val Ala Ile Asp Glu Met Ser Lys Lys Val Ser Glu  
 325 330 335  
 Leu Asn Gln Leu Cys Thr Met Glu Glu Val Asp Met Ile Arg Leu Gln  
 340 345 350  
 Leu Lys Leu Gln Gly Ser Val Ser Val Lys Val Asn Ala Gly Pro Met  
 355 360 365  
 Ala Tyr Ala Arg Ala Phe Leu Glu Glu Thr Asn Ala Lys Lys Tyr Pro  
 370 375 380  
 Asp Asn Gln Val Lys Leu Leu Lys Glu Ile Phe Arg Gln Phe Ala Asp  
 385 390 395 400  
 Ala Cys Gly Gln Ala Leu Asp Val Asn Glu Arg Leu Ile Lys Glu Asp  
 405 410 415  
 Gln Leu Glu Tyr Gln Glu Glu Leu Arg Ser His Tyr Lys Asp Met Leu  
 420 425 430  
 Ser Glu Leu Ser Thr Val Met Asn Glu Gln Leu Cys Arg Gly Pro Cys  
 435 440 445  
 Leu Tyr Ser Phe Cys Ser Ser Val Ser Ser Ile Ser Leu Ser Thr Val  
 450 455 460  
 Ser Lys Ser Asp Tyr Gly Gln Gly Arg Pro Val Lys Ala Arg Ser Gly  
 465 470 475 480  
 Pro Asn Leu His Ser Ser Asn  
 485

&lt;210&gt; 5009

&lt;211&gt; 426

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5009

acgcgtgaag tgtttgtggc agtgctgggc acatgttaag tactcaataa ggtttaggca  
 60  
 ttattactgc cccctgtgaa ggtctggggc aggatatgaa agggcctgtg ctctccttcc  
 120  
 ccttggagat gtcagcaaag catggcgagg agagcagctt ctcctctgtc ccaaaggga  
 180

gcagaagatt aggagctaga tcaagcaaga ctgggggctg caggtgtagg aagtgaatca  
 240  
 agatgacttc aaaagagaga ataaaaagtg ggcttatgaa gaattggtgg actcttcctg  
 300  
 gcaaattggg caagaaaagc agagatgggtg acaggaagaa aaagcaagca tagctgtcca  
 360  
 ctggctgggt aagagcagct ctcaaaggtc gccagacaag catcccgctt tatgattcca  
 420  
 aagcat  
 426

<210> 5010

<211> 119

<212> PRT

<213> Homo sapiens

<400> 5010

Met	Leu	Val	Trp	Arg	Pro	Leu	Arg	Ala	Ala	Leu	Asn	Gln	Pro	Val	Asp
1				5					10					15	
Ser	Tyr	Ala	Cys	Phe	Phe	Phe	Leu	Ser	Pro	Ser	Leu	Leu	Phe	Leu	Pro
			20					25					30		
Asn	Leu	Pro	Gly	Arg	Val	His	Gln	Phe	Phe	Ile	Ser	Pro	Leu	Phe	Ile
		35					40					45			
Leu	Ser	Phe	Glu	Val	Ile	Leu	Ile	His	Phe	Leu	His	Leu	Gln	Pro	Pro
	50					55					60				
Val	Leu	Leu	Asp	Leu	Ala	Pro	Asn	Leu	Leu	Leu	Pro	Phe	Gly	Thr	Glu
65					70					75				80	
Glu	Lys	Leu	Leu	Ser	Ser	Pro	Cys	Phe	Ala	Asp	Ile	Ser	Lys	Gly	Lys
			85						90					95	
Glu	Ser	Thr	Gly	Pro	Phe	Ile	Ser	Cys	Pro	Arg	Pro	Ser	Gln	Gly	Ala
			100					105						110	
Val	Ile	Met	Pro	Lys	Pro	Tyr									
															115

<210> 5011

<211> 3431

<212> DNA

<213> Homo sapiens

<400> 5011

nccgcatgct cccgtatctt tggttacgct cgtcagccgg tcggccgcgc cctccagccg  
 60  
 tgtgccgcta tgggagtccc ggcgttcttc cgctggctca gccgcaagta cccgtccatc  
 120  
 atagtcaact gcgtggaaga gaagccaaaa gaatgcaatg gtgtaaagat tccagttgat  
 180  
 gccagtaaac ctaatccaaa tgatgtggag tttgataatc tgtattttgga tatgaatgga  
 240  
 atcatccatc cctgtactca tcctgaagac aaaccagcac caaaaaatga agatgaaatg  
 300  
 atggttgcaa tttttgagta cattgacaga cttttcagta ttgtaagacc aagaagactt  
 360  
 ctctacatgg caatagatgg agtggcacca cgtgtaaaaa tgaaccagca gcgttcaagg  
 420

aggttcaggg ccatcaaaga aggaatggaa gcagcagtcg agaagcagcg agtcagggaa  
480  
gaaatattgg caaaaggtgg ctttcttcct ccagaagaaa taaaagaaag atttgacagc  
540  
aactgtatta caccaggaac tgaattcatg gacaatcttg ctaaatgcct tcgctattac  
600  
atagctgacg gtttaaataa tgaccctggg tggaaaaatt tgacagttat tttatctgat  
660  
gctagtgcgc ctggtgaagg agaacataaa atcatggatt acattagaag gcaaagagcc  
720  
cagcctaacc atgacccaaa tactcatcat tgtttatgtg gagcagatgc tgatctcatt  
780  
atgcttggcc ttgccacaca tgaaccgaac tttaccatta ttagagaaga attcaaacca  
840  
aacaagccca aaccatgtgg tctttgtaat cagtttggac atgaggtcaa agattgtgaa  
900  
ggtttgccaa gagaaaagaa gggaaagcat gatgaacttg ccgatagtct tccttgatga  
960  
gaaggagagt ttatcttcct tcggcttaat gttcttcgtg agtatttgga aagagaactc  
1020  
acaatggcca gcctaccatt cacatttgat gttgagagga gcattgatga ctgggttttc  
1080  
atgtgcttct ttgtgggaaa tgacttcctc cctcatttgc catcgttaga gattagggaa  
1140  
aatgcaattg accgtttggt taacatatac aaaaatgtgg tacacaaaac tgggggttac  
1200  
cttacagaaa gtgggttatgt caatctgcaa agagtacaga tgatcatggt agcagttggt  
1260  
gaagttgagg atagcatttt taaaaagaga aaggatgatg aggacagttt tagaagacga  
1320  
cagaaagaaa aaagaaagag aatgaagaga gatcaaccag ctttcactcc tagtggaata  
1380  
ttaactcctc atgccttggg ttcaagaaat tcaccagggt ctcaagtagc cagtaatccg  
1440  
agacaagcag cctatgaaat gaggatgcag aataactcta gtccttcgat atctccta  
1500  
acgagtttca catctgatgg ctccccgtct ccattaggag gaattaagcg aaaagcagaa  
1560  
gacagtgaca gtgaacctga gccagaggat aatgtcaggt tatgggaagc tggctggaag  
1620  
cagcgttact acaagaacaa atttgatgtg gatgcagctg atgagaaatt ccgtcggaaa  
1680  
gttgatgagt cgtacgttga aggactttgc tgggttctta gatattatta ccagggctgt  
1740  
gcttctgga agtgggatta tccatttcat tatgcaccat ttgcttcaga ctttgaaggc  
1800  
attgcagaca tgccatctga ttttgagaag ggtacgaaac cgtttaaacc actagaacaa  
1860  
cttatggggg tatttccagc tgcaagtggg aattttctac ctccatcatg gcggaagctc  
1920  
atgagtgatc ctgattctag tataattgac ttctatcctg aagattttgc tattgatttg  
1980  
aatgggaaga aatatgcatg gcaaggtgtt gctctcttgc cattcgtgga tgagcgaagg  
2040

ctacgagctg ccctagaaga ggtataccca gacctcactc cagaagagac cagaagaaac  
2100  
agccttgagg gtgatgtctt atttgtgggg aaacatcacc cactccatga cttcatttta  
2160  
gagctgtacc agacaggttc cacagagcca gtggaggtag cccctgaact atgtcatggg  
2220  
attcaaggaa agttttcttt ggatgaagaa gccattcttc cagatcaaata agtatgttct  
2280  
cctgttccta tgtaaggga tctgacacag aacactgtag tcagtattaa ttttaaagac  
2340  
ccacagtgtg ctgaagatta catttttaaa gctgtaatgc ttccaggagc aagaaagcca  
2400  
gcagcagtac tgaaacctag tgactgggaa aaatccagca atggacggca gtggaagcct  
2460  
cagcttggtt ttaaccgtga ccggaggcct gtgcacctgg atcaggcagc cttcaggact  
2520  
ttgggccatg tgatgccaaag aggtctcagga actggcattt acagcaatgc tgcaccacca  
2580  
cctgtgactt accagggaaa cttatacagg ccgcttttga gaggacaagc ccagattcca  
2640  
aaacttatgt caaatatgag gccccaggat tcctggcgag gtccctctcc ccttttccag  
2700  
cagcaaaggt ttgacagagg cgttggggct gaacctctgc tcccatggaa ccggatgctg  
2760  
caaaccaga atgcagcctt ccagccaaac cagtaccaga tgctagctgg gcctgggtgg  
2820  
tatccacca gacgagatga tcgtggaggg agacagggat atcccagaga aggaaggaaa  
2880  
tacccttgc caccacctc aggaagatac aattggaatt aagcttttgt aaagctttcc  
2940  
caaatactt catcattcta cagttttatg ctatttgtgg aaagatttct ttctcaagta  
3000  
gtagttttta ataaaactac agtactttgt gtatttcttt taactgtgta tatttctact  
3060  
gatctgatct cactgtttat gttgctttcc aaagatgtat gttgcataat acagtggatc  
3120  
tgaatttatt attgcttata aaacacattt gatggaatag gagtactggg ttttcataat  
3180  
ggttaaaaat gaaaccagct gtggatttca aaacacagtg tattctagat catctaagat  
3240  
ccatgctgat ttttattgca caagaattag gtttgaactc ttgagctgga acctcagcaa  
3300  
actagagtat atattgttca gtatttcttt ggaaacattt cattaatgta cttgtcttac  
3360  
agaaatttct gaactttagt aaaaaaaaaa aaagttaaac ttttaaaact caaaaaaaaa  
3420  
aaaaaaaaa a  
3431

&lt;210&gt; 5012

&lt;211&gt; 950

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens



&lt;400&gt; 5012

```

Met Gly Val Pro Ala Phe Phe Arg Trp Leu Ser Arg Lys Tyr Pro Ser
 1           5           10           15
Ile Ile Val Asn Cys Val Glu Glu Lys Pro Lys Glu Cys Asn Gly Val
 20           25           30
Lys Ile Pro Val Asp Ala Ser Lys Pro Asn Pro Asn Asp Val Glu Phe
 35           40           45
Asp Asn Leu Tyr Leu Asp Met Asn Gly Ile Ile His Pro Cys Thr His
 50           55           60
Pro Glu Asp Lys Pro Ala Pro Lys Asn Glu Asp Glu Met Met Val Ala
 65           70           75           80
Ile Phe Glu Tyr Ile Asp Arg Leu Phe Ser Ile Val Arg Pro Arg Arg
 85           90           95
Leu Leu Tyr Met Ala Ile Asp Gly Val Ala Pro Arg Val Lys Met Asn
 100          105          110
Gln Gln Arg Ser Arg Arg Phe Arg Ala Ile Lys Glu Gly Met Glu Ala
 115          120          125
Ala Val Glu Lys Gln Arg Val Arg Glu Glu Ile Leu Ala Lys Gly Gly
 130          135          140
Phe Leu Pro Pro Glu Glu Ile Lys Glu Arg Phe Asp Ser Asn Cys Ile
 145          150          155          160
Thr Pro Gly Thr Glu Phe Met Asp Asn Leu Ala Lys Cys Leu Arg Tyr
 165          170          175
Tyr Ile Ala Asp Arg Leu Asn Asn Asp Pro Gly Trp Lys Asn Leu Thr
 180          185          190
Val Ile Leu Ser Asp Ala Ser Ala Pro Gly Glu Gly Glu His Lys Ile
 195          200          205
Met Asp Tyr Ile Arg Arg Gln Arg Ala Gln Pro Asn His Asp Pro Asn
 210          215          220
Thr His His Cys Leu Cys Gly Ala Asp Ala Asp Leu Ile Met Leu Gly
 225          230          235          240
Leu Ala Thr His Glu Pro Asn Phe Thr Ile Ile Arg Glu Glu Phe Lys
 245          250          255
Pro Asn Lys Pro Lys Pro Cys Gly Leu Cys Asn Gln Phe Gly His Glu
 260          265          270
Val Lys Asp Cys Glu Gly Leu Pro Arg Glu Lys Lys Gly Lys His Asp
 275          280          285
Glu Leu Ala Asp Ser Leu Pro Cys Ala Glu Gly Glu Phe Ile Phe Leu
 290          295          300
Arg Leu Asn Val Leu Arg Glu Tyr Leu Glu Arg Glu Leu Thr Met Ala
 305          310          315          320
Ser Leu Pro Phe Thr Phe Asp Val Glu Arg Ser Ile Asp Asp Trp Val
 325          330          335
Phe Met Cys Phe Phe Val Gly Asn Asp Phe Leu Pro His Leu Pro Ser
 340          345          350
Leu Glu Ile Arg Glu Asn Ala Ile Asp Arg Leu Val Asn Ile Tyr Lys
 355          360          365
Asn Val Val His Lys Thr Gly Gly Tyr Leu Thr Glu Ser Gly Tyr Val
 370          375          380
Asn Leu Gln Arg Val Gln Met Ile Met Leu Ala Val Gly Glu Val Glu
 385          390          395          400
Asp Ser Ile Phe Lys Lys Arg Lys Asp Asp Glu Asp Ser Phe Arg Arg
 405          410          415
Arg Gln Lys Glu Lys Arg Lys Arg Met Lys Arg Asp Gln Pro Ala Phe

```

			420					425					430			
Thr	Pro	Ser	Gly	Ile	Leu	Thr	Pro	His	Ala	Leu	Gly	Ser	Arg	Asn	Ser	
			435				440					445				
Pro	Gly	Ser	Gln	Val	Ala	Ser	Asn	Pro	Arg	Gln	Ala	Ala	Tyr	Glu	Met	
			450				455					460				
Arg	Met	Gln	Asn	Asn	Ser	Ser	Pro	Ser	Ile	Ser	Pro	Asn	Thr	Ser	Phe	
465					470					475					480	
Thr	Ser	Asp	Gly	Ser	Pro	Ser	Pro	Leu	Gly	Gly	Ile	Lys	Arg	Lys	Ala	
			485					490					495			
Glu	Asp	Ser	Asp	Ser	Glu	Pro	Glu	Pro	Glu	Asp	Asn	Val	Arg	Leu	Trp	
			500					505					510			
Glu	Ala	Gly	Trp	Lys	Gln	Arg	Tyr	Tyr	Lys	Asn	Lys	Phe	Asp	Val	Asp	
		515					520					525				
Ala	Ala	Asp	Glu	Lys	Phe	Arg	Arg	Lys	Val	Val	Gln	Ser	Tyr	Val	Glu	
		530					535					540				
Gly	Leu	Cys	Trp	Val	Leu	Arg	Tyr	Tyr	Tyr	Gln	Gly	Cys	Ala	Ser	Trp	
545					550					555					560	
Lys	Trp	Tyr	Tyr	Pro	Phe	His	Tyr	Ala	Pro	Phe	Ala	Ser	Asp	Phe	Glu	
				565					570					575		
Gly	Ile	Ala	Asp	Met	Pro	Ser	Asp	Phe	Glu	Lys	Gly	Thr	Lys	Pro	Phe	
			580					585					590			
Lys	Pro	Leu	Glu	Gln	Leu	Met	Gly	Val	Phe	Pro	Ala	Ala	Ser	Gly	Asn	
		595					600					605				
Phe	Leu	Pro	Pro	Ser	Trp	Arg	Lys	Leu	Met	Ser	Asp	Pro	Asp	Ser	Ser	
		610					615					620				
Ile	Ile	Asp	Phe	Tyr	Pro	Glu	Asp	Phe	Ala	Ile	Asp	Leu	Asn	Gly	Lys	
625					630					635					640	
Lys	Tyr	Ala	Trp	Gln	Gly	Val	Ala	Leu	Leu	Pro	Phe	Val	Asp	Glu	Arg	
			645					650					655			
Arg	Leu	Arg	Ala	Ala	Leu	Glu	Glu	Val	Tyr	Pro	Asp	Leu	Thr	Pro	Glu	
			660					665					670			
Glu	Thr	Arg	Arg	Asn	Ser	Leu	Gly	Gly	Asp	Val	Leu	Phe	Val	Gly	Lys	
		675					680					685				
His	His	Pro	Leu	His	Asp	Phe	Ile	Leu	Glu	Leu	Tyr	Gln	Thr	Gly	Ser	
	690				695					700						
Thr	Glu	Pro	Val	Glu	Val	Pro	Pro	Glu	Leu	Cys	His	Gly	Ile	Gln	Gly	
705					710					715					720	
Lys	Phe	Ser	Leu	Asp	Glu	Glu	Ala	Ile	Leu	Pro	Asp	Gln	Ile	Val	Cys	
			725					730					735			
Ser	Pro	Val	Pro	Met	Leu	Arg	Asp	Leu	Thr	Gln	Asn	Thr	Val	Val	Ser	
		740					745					750				
Ile	Asn	Phe	Lys	Asp	Pro	Gln	Phe	Ala	Glu	Asp	Tyr	Ile	Phe	Lys	Ala	
		755					760					765				
Val	Met	Leu	Pro	Gly	Ala	Arg	Lys	Pro	Ala	Ala	Val	Leu	Lys	Pro	Ser	
	770				775					780						
Asp	Trp	Glu	Lys	Ser	Ser	Asn	Gly	Arg	Gln	Trp	Lys	Pro	Gln	Leu	Gly	
785					790					795					800	
Phe	Asn	Arg	Asp	Arg	Arg	Pro	Val	His	Leu	Asp	Gln	Ala	Ala			

850	855	860
Pro Gln Asp Ser Trp Arg Gly Pro Pro Pro Leu Phe Gln Gln Gln Arg		
865	870	875
Phe Asp Arg Gly Val Gly Ala Glu Pro Leu Leu Pro Trp Asn Arg Met		880
	885	890
Leu Gln Thr Gln Asn Ala Ala Phe Gln Pro Asn Gln Tyr Gln Met Leu		895
	900	905
Ala Gly Pro Gly Gly Tyr Pro Pro Arg Arg Asp Asp Arg Gly Gly Arg		910
	915	920
Gln Gly Tyr Pro Arg Glu Gly Arg Lys Tyr Pro Leu Pro Pro Pro Ser		925
	930	935
Gly Arg Tyr Asn Trp Asn		940
945	950	

<210> 5013  
 <211> 2480  
 <212> DNA  
 <213> Homo sapiens

<400> 5013  
 nccggggcgg agctcgcgat agcgaccggg agcagggcgc ggggcgggac ccaggtccga  
 60  
 ggcgaggaag ccggaagcca ggcgcgggga gcctccccct tcgactgcag cctcgctccg  
 120  
 tgcttctgc gcgcctggga tcccggagcc tgcctaggtt ctgtgcgctc ccgcccaggc  
 180  
 cggtgcccgc cgcccgctg cgcccaggc aggtcccagg cctccggctg ctcccggccg  
 240  
 aaggtgggga caggcagtgg caggcaccac tagcgagggc gtttgggaac ccagggtgac  
 300  
 caggcgcgag ccatggggac cgcgcttggt taccatgagg acatgacggc caccggctg  
 360  
 ctctgggacg accccgagtg cgagatcgag cgtcctgagc gcctgaccgc agccctggat  
 420  
 cgcctgcggc agcgcgccct ggaacagagg tgtctgcggt tgtcagcccg cgaggcctcg  
 480  
 gaagaggagc tgggcctggt gcacagccca gagtatgtat ccctggtcag ggagaccag  
 540  
 gtcctaggca aggaggagct gcaggcgctg tccggacagt tcgacgcat ctacttcac  
 600  
 ccgagtacct ttactgcgc gcggctggcc gcaggggctg gactgcagct ggtggacgct  
 660  
 gtgctcactg gagctgtgca aaatgggctt gccctggtga ggcctcccgg gcaccatggc  
 720  
 cagagggcgg ctgccaacgg gttctgtgtg ttcaacaacg tggccatagc agctgcacat  
 780  
 gccaagcaga aacacgggct acacaggatc ctcgctgtgg actgggatgt gcaccatggc  
 840  
 caggggatcc agtatctctt tgaggatgac ccagcgtcc tttacttctc ctggcaccgc  
 900  
 tatgagcatg ggcgcttctg gcctttcctg cgagagtcag atgcagacgc agtggggcgg  
 960  
 ggacagggcc tcggcttcac tgtcaacctg ccctggaacc aggttgggat gggaaacgct  
 1020

gactacgtgg ctgccttcct gcacctgctg ctcccactgg cctttgagtt tgacctgag  
1080  
ctggtgctgg tctcggcagg atttgactca gccatcgggg accctgaggg gcaaatgcag  
1140  
gccacgccag agtgcttcgc ccacctcaca cagctgctgc aggtgctggc cggcgggccg  
1200  
gtctgtgccg tgctggaggg cggctaccac ctggagtcac tggcggagtc agtgtgcatg  
1260  
acagtacaga cgctgctggg tgacccggcc ccacccctgt caggggccaat ggcgccatgt  
1320  
cagaggtgcg aggggagtg cctagagtcc atccagagtg cccgtgctgc ccaggccccg  
1380  
cactggaaga gcctccagca gcaagatgtg accgctgtgc cgatgagccc cagcagccac  
1440  
tcccagagg ggaggcctcc acctctgctg cctgggggtc cagtgtgtaa ggcagctgca  
1500  
tctgcaccga gctccctcct ggaccagccg tgccctctgcc ccgcaccctc tgtccgcacc  
1560  
gctgttgccc tgacaacgcc ggatatcaca ttggttctgc cccctgacgt catccaacag  
1620  
gaagcgtcag ccctgaggga ggagacagaa gcctggggcca ggccacacga gtccttgcc  
1680  
cgggaggagg ccctcactgc acttggggaag ctctgtacc tcttagatgg gatgctggat  
1740  
gggcaggtga acagtggat agcagccact ccagcctctg ctgcagcagc caccctggat  
1800  
gtggctgttc ggagaggcct gtcccacgga gccagaggc tgctgtgcgt ggccctggga  
1860  
cagctggacc ggctccaga cctcgcccat gacgggagga gtctgtggct gaacatcagg  
1920  
ggcaaggagg cggtgcct atccatgttc catgtctcca cgccactgcc agtgatgacc  
1980  
ggtggtttcc tgagctgcat cttgggcttg gtgctgcccc tggcctatgg ctccagcct  
2040  
gacctggtgc tggtggegt ggggcctggc catggcctgc agggcccca cgctgcactc  
2100  
ctggtgcaa tgcttcgggg gctggcaggg ggccgagtcc tggccctcct ggaggaggta  
2160  
agctgggcag ggtggaggtg ctgcggggtg ggacgagggg aaggaccagt gactgcttcc  
2220  
gtcttcgcc ctggtccaga actccacacc ccagctagca gggatcctgg cccgggtgct  
2280  
gaatggagag gcacctcta gcctaggccc ttcctctgtg gcctccccag aggacgtcca  
2340  
ggccctgatg tacctgagag ggcagctgga gcctcagtgg aagatgttgc agtgccatcc  
2400  
tcacctggtg gcttgaaatc ggccaagggtg ggagcattta caccgcagaa atgacaccgc  
2460  
acgccagcgc cccgcggccg  
2480

<210> 5014  
<211> 675  
<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5014

```

Arg Gly Arg Leu Gly Thr Gln Gly Asp His Gly Ala Ala Met Gly Thr
 1           5           10           15
Ala Leu Val Tyr His Glu Asp Met Thr Ala Thr Arg Leu Leu Trp Asp
      20           25           30
Asp Pro Glu Cys Glu Ile Glu Arg Pro Glu Arg Leu Thr Ala Ala Leu
      35           40           45
Asp Arg Leu Arg Gln Arg Gly Leu Glu Gln Arg Cys Leu Arg Leu Ser
      50           55           60
Ala Arg Glu Ala Ser Glu Glu Leu Gly Leu Val His Ser Pro Glu
65           70           75           80
Tyr Val Ser Leu Val Arg Glu Thr Gln Val Leu Gly Lys Glu Glu Leu
      85           90           95
Gln Ala Leu Ser Gly Gln Phe Asp Ala Ile Tyr Phe His Pro Ser Thr
      100           105           110
Phe His Cys Ala Arg Leu Ala Ala Gly Ala Gly Leu Gln Leu Val Asp
      115           120           125
Ala Val Leu Thr Gly Ala Val Gln Asn Gly Leu Ala Leu Val Arg Pro
      130           135           140
Pro Gly His His Gly Gln Arg Ala Ala Ala Asn Gly Phe Cys Val Phe
145           150           155           160
Asn Asn Val Ala Ile Ala Ala Ala His Ala Lys Gln Lys His Gly Leu
      165           170           175
His Arg Ile Leu Val Val Asp Trp Asp Val His His Gly Gln Gly Ile
      180           185           190
Gln Tyr Leu Phe Glu Asp Asp Pro Ser Val Leu Tyr Phe Ser Trp His
      195           200           205
Arg Tyr Glu His Gly Arg Phe Trp Pro Phe Leu Arg Glu Ser Asp Ala
      210           215           220
Asp Ala Val Gly Arg Gly Gln Gly Leu Gly Phe Thr Val Asn Leu Pro
225           230           235           240
Trp Asn Gln Val Gly Met Gly Asn Ala Asp Tyr Val Ala Ala Phe Leu
      245           250           255
His Leu Leu Leu Pro Leu Ala Phe Glu Phe Asp Pro Glu Leu Val Leu
      260           265           270
Val Ser Ala Gly Phe Asp Ser Ala Ile Gly Asp Pro Glu Gly Gln Met
      275           280           285
Gln Ala Thr Pro Glu Cys Phe Ala His Leu Thr Gln Leu Leu Gln Val
      290           295           300
Leu Ala Gly Gly Arg Val Cys Ala Val Leu Glu Gly Gly Tyr His Leu
305           310           315           320
Glu Ser Leu Ala Glu Ser Val Cys Met Thr Val Gln Thr Leu Leu Gly
      325           330           335
Asp Pro Ala Pro Pro Leu Ser Gly Pro Met Ala Pro Cys Gln Arg Cys
      340           345           350
Glu Gly Ser Ala Leu Glu Ser Ile Gln Ser Ala Arg Ala Ala Gln Ala
      355           360           365
Pro His Trp Lys Ser Leu Gln Gln Gln Asp Val Thr Ala Val Pro Met
      370           375           380
Ser Pro Ser Ser His Ser Pro Glu Gly Arg Pro Pro Pro Leu Leu Pro
385           390           395           400
Gly Gly Pro Val Cys Lys Ala Ala Ala Ser Ala Pro Ser Ser Leu Leu

```

405 410 415  
 Asp Gln Pro Cys Leu Cys Pro Ala Pro Ser Val Arg Thr Ala Val Ala  
 420 425 430  
 Leu Thr Thr Pro Asp Ile Thr Leu Val Leu Pro Pro Asp Val Ile Gln  
 435 440 445  
 Gln Glu Ala Ser Ala Leu Arg Glu Glu Thr Glu Ala Trp Ala Arg Pro  
 450 455 460  
 His Glu Ser Leu Ala Arg Glu Glu Ala Leu Thr Ala Leu Gly Lys Leu  
 465 470 475 480  
 Leu Tyr Leu Leu Asp Gly Met Leu Asp Gly Gln Val Asn Ser Gly Ile  
 485 490 495  
 Ala Ala Thr Pro Ala Ser Ala Ala Ala Thr Leu Asp Val Ala Val  
 500 505 510  
 Arg Arg Gly Leu Ser His Gly Ala Gln Arg Leu Leu Cys Val Ala Leu  
 515 520 525  
 Gly Gln Leu Asp Arg Pro Pro Asp Leu Ala His Asp Gly Arg Ser Leu  
 530 535 540  
 Trp Leu Asn Ile Arg Gly Lys Glu Ala Ala Ala Leu Ser Met Phe His  
 545 550 555 560  
 Val Ser Thr Pro Leu Pro Val Met Thr Gly Gly Phe Leu Ser Cys Ile  
 565 570 575  
 Leu Gly Leu Val Leu Pro Leu Ala Tyr Gly Phe Gln Pro Asp Leu Val  
 580 585 590  
 Leu Val Ala Leu Gly Pro Gly His Gly Leu Gln Gly Pro His Ala Ala  
 595 600 605  
 Leu Leu Ala Ala Met Leu Arg Gly Leu Ala Gly Gly Arg Val Leu Ala  
 610 615 620  
 Leu Leu Glu Glu Val Ser Trp Ala Gly Trp Arg Cys Cys Gly Val Gly  
 625 630 635 640  
 Arg Gly Glu Gly Pro Val Thr Ala Ser Val Phe Ala Pro Gly Pro Glu  
 645 650 655  
 Leu His Thr Pro Ala Ser Arg Asp Pro Gly Pro Gly Ala Glu Trp Arg  
 660 665 670  
 Gly Thr Ser  
 675

&lt;210&gt; 5015

&lt;211&gt; 1360

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5015

atgagcgcgc cctggaggcg agccaggccc gtcaccacct cccagcggcc ccgcccctcc  
 60  
 ccgcaggtcc ctcccctctc cgcaggcccc gccgccgccg ccattctttgt tgggggcagc  
 120  
 caggcctggc tcgagatgcc gaagtcgtgc gcggcccggc agtgctgcaa ccgctacagc  
 180  
 agccgcagga agcagctcac cttccaccgg tttccgttca gccgccgga gctgctgaag  
 240  
 gaatgggtgc tgaacatcgg ccgggggaac ttcaagccca agcagcacac ggtcatctgc  
 300  
 tccgagcact tccggccaga gtgcttcagc gcctttggaa accgcaagaa cctaaagcac  
 360

aatgccgtgc ccacggtggt cgccttttcag gacccacac agcaggtgag ggagaacaca  
 420  
 gaccctgccca gtgagagagg aaatgccagc tcttctcaga aagaaaaggt cctccctgag  
 480  
 gcgggggccc gagaggacag tcctgggaga aacatggaca ctgcacttga agagcttcag  
 540  
 ttgcccccaa atgccgaagg ccacgtaaaa caggtctcgc cacggaggcc gcaagcaaca  
 600  
 gaggctgttg gccggccgac tggccctgca ggcctgagaa ggacccccaa caagcagcca  
 660  
 tctgatcaca gctatgccct tttggactta gattccctga agaaaaaact cttcctcact  
 720  
 ctgaaggaaa atgaaaagct ccggaagcgc ttgcaggccc agaggctggt gatgcgaagg  
 780  
 atgtccagcc gcctccgtgc ttgcaaaggg caccggggac tccaggccag acttggggcca  
 840  
 gagcagcaga gctgagcccc acaggctccg gacgcagagg tggcagtggc accagggccc  
 900  
 gcagagcttt ggagctctgg ctgtggacat ttttgtctgc tgtggacact gagaaagtgtg  
 960  
 gccatgaggg ctgcttgccc ggggatcgag acagtagcca agctccccgg cgagagcccc  
 1020  
 aatgccgtct gggggacgtt tagaggcgtg gcactaggag tgcacatctg tgagcatgac  
 1080  
 aagcttatcc tcccatggta acagaagtcc aggtgagggc tgattctgga cgctgtcctt  
 1140  
 tcagcacacg cagagcaaag atcgttggaa gccccagtgt gggagatgct cctcagggag  
 1200  
 gaagccatgt gagggggctg gctctgtggc ggggtgagtgg tcccctctc catcagcctg  
 1260  
 gagagccgct cggggttcta aggagtgact cctgtccccg cctggtgtga gtgggcagtg  
 1320  
 taataaagtg tctttctata cggaaaaaaa aaaaaaaaaa  
 1360

&lt;210&gt; 5016

&lt;211&gt; 284

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5016

Met	Ser	Ala	Pro	Trp	Arg	Arg	Ala	Arg	Pro	Val	Thr	Thr	Ser	Gln	Arg
1				5				10						15	
Pro	Arg	Pro	Ser	Pro	Gln	Val	Pro	Pro	Leu	Ser	Ala	Gly	Pro	Ala	Ala
			20					25					30		
Ala	Ala	Ile	Phe	Val	Gly	Gly	Ser	Gln	Ala	Trp	Leu	Glu	Met	Pro	Lys
			35				40					45			
Ser	Cys	Ala	Ala	Arg	Gln	Cys	Cys	Asn	Arg	Tyr	Ser	Ser	Arg	Arg	Lys
	50					55				60					
Gln	Leu	Thr	Phe	His	Arg	Phe	Pro	Phe	Ser	Arg	Pro	Glu	Leu	Leu	Lys
65					70					75				80	
Glu	Trp	Val	Leu	Asn	Ile	Gly	Arg	Gly	Asn	Phe	Lys	Pro	Lys	Gln	His
			85					90						95	
Thr	Val	Ile	Cys	Ser	Glu	His	Phe	Arg	Pro	Glu	Cys	Phe	Ser	Ala	Phe

```
<210> 5017
<211> 785
<212> DNA
<213> Homo sapiens
```

```

<400> 5017
gggcccctcag cctctgaggg cagagatgct gtcagtgccg caggtgcatc acatacttct
60
agcatcctct ccaccctgca ttccaaatgc tgcttgctgc ctgccctgcc ctccgatgca
120
gggggtggggg ggggggcgga gggcccgccc agcatagctg cagtgtcaca aagccatggc
180
agaaggtcct agcggcgcca ccctgcccc a gctgaggag gagggagagg gaggaacaac
240
cctgggcaga cggggcctca gggacctgtg tccttcggcc tccagagctg ccagccacg
300
ggctctcagg gtgctggggc agccccaggc cccctcttga actcagctgg ggccaggggc
360
cctcagaatg aaggcaggca ccaggcagga gcagcatccc ctccttgac ggtgctggca
420
ggagggccgc gccatgctga ctgcttgaac ctctgctgac ctgacagtgc tggcgggagg
480
gccgcaccat gctgactgcc tgaatctctg ctgaggctgc ctgcctgccg ggcccagctc
540
agcgccctct ccactgcgaa tcagtggcga tcatgtgatt tctatttctg cccacagggg
600
taagggacga gtcttctgga aggctctgcc atggacattt gtcctcgggc tcagaggccc
660
caccctgccc cacacctgcc cctaatact gcagtgtcca gccagtggtt gaacagattg
720

```



tagcgttctg tctcattacg agcaaataaa tagactttca ttggaaaaaa aaaaaaaaaa  
 780  
 aaaaaa  
 785

<210> 5018  
 <211> 63  
 <212> PRT  
 <213> Homo sapiens

<400> 5018  
 Gly Pro Ser Ala Ser Glu Gly Arg Asp Ala Val Ser Ala Ala Gly Ala  
 1 5 10 15  
 Ser His Thr Ser Ser Ile Leu Ser Thr Leu His Ser Lys Cys Cys Leu  
 20 25 30  
 Leu Pro Ala Leu Pro Ser Asp Ala Gly Val Gly Trp Gly Ala Glu Gly  
 35 40 45  
 Pro Pro Ser Ile Ala Ala Val Ser Gln Ser His Gly Arg Arg Ser  
 50 55 60

<210> 5019  
 <211> 2766  
 <212> DNA  
 <213> Homo sapiens

<400> 5019  
 nngctcagat actggcgaag acgagaagaa gaggagcgtt ggagaatgga aatgagacgt  
 60  
 tatgaagagg acatgtactg gaggagaatg gaggaagaac aacatcattg ggatgatcgc  
 120  
 cgccgaatgc cagatggagg ttatcctcat ggtcctccag gccattagg ccttctggga  
 180  
 gtccgaccag gcatgcctcc tcagcctcag gggcctgcac cttacgtcg tctgactca  
 240  
 tctgatgacc gttatgtaat gacaaaacat gccaccattt atccaactga agaggagtta  
 300  
 caggcagttc agaaaattgt ttctattact gaacgtgctt taaaactcgt ttcagacagt  
 360  
 ttgtctgaac atgagaagaa caagaacaaa gagggagatg ataagaaaga gggaggtaaa  
 420  
 gacagagctt tgaaaggagt tttgcgagtg ggagtatttg caaaaggatt acttctccga  
 480  
 ggagatagaa atgtcaacct tgttttgctg tgctcagaga aaccttcaaa gacattatta  
 540  
 agcgtattg cagaaaacct acccaaacag cttgctttta taagccctga gaagtatgac  
 600  
 ataaaatgtg ctgtatctga agcggcaata attttgaatt catgtgtgga acccaaatg  
 660  
 caagtcacta tcacactgac atctccaatt attcgagaag agaactatgag ggaaggagat  
 720  
 gtaacctcgg gtatggtgaa agaccaccg gacgtcttgg acaggcaaaa atgccttgac  
 780  
 gctctggctg ctctacgcca cgctaagtgg ttccaggcta gagctaattgg tctgcagtcc  
 840

tgtgtgatta tcatacgcat tcttcgagac ctctgtcagc gagttccaac ttggtctgat  
900  
tttccaagct gggctatgga gttactagta gagaaagcaa tcagcagtg c ttctagccct  
960  
cagagccctg gggatgcact gagaagagtt tttgaatgca tttcttcagg gattattctt  
1020  
aaaggtagtc ctggacttct ggatccttgt gaaaaggatc cttttgatac cttggcaaca  
1080  
atgactgacc agcagcgtga agacatcaca tccagtgcac agtttgcatt gagactcctt  
1140  
gcattccgcc agatacacia agttctaggc atggatccat taccgcaaat gagccaacgt  
1200  
tttaacatcc acaacaacag gaaacgaaga agagatagtg atggagttga tggatttgaa  
1260  
gctgagggga aaaaagacaa aaaagattat gataactttt aaaaagtgtc tgtaaatctt  
1320  
cagtgttaaa aaaacagatg cccatttggt ggctgttttt cattcataat aatgtctaca  
1380  
ttgaaaaatt tatcaagaat ttaaaggatt tcatggaaga accaagtttt tctatgatat  
1440  
taaaaaatgt acagtgttag gtattatttg aatggaaaga cacccaaaaa aaaaatgtgc  
1500  
tccgactagg gggaaaacag tagttccgat tttttcccat tttttttatt ttattttctg  
1560  
gttgccctag cttccccccc tatttttgtg tcttttatta actagtgcac tgtcttatta  
1620  
aatcttcact gtatttaatg caggatgtgt gcttcagttg ctctgtgtat tttgatattt  
1680  
taatttagag gttttgtttg ctttttgaca ctagtgttaa gttactttgt tatagatggt  
1740  
atcctttacc ccttcttaat attttacagc agtacgtttt tttgtaacgt gagactgcag  
1800  
agtttgtttt tctatatgtg aaggattaca acacaaaaag ttatcctgcc attcgagtgc  
1860  
tcagaactga atgtttctgc agatcttgtg gcatttgtct ctagtgtgat atataaagg  
1920  
gtaattaaga cagagttctg ttaatctaata caagtttgct gttagttgtg cattagcagt  
1980  
ataaaagcta atatatacta tatgggtctg caacagtttt aaagcctctg cataattgat  
2040  
aataaaaatg catgacattc ttgtttttta tagactttta aaatcataat tttagggtta  
2100  
acacgtagat ctttgtacag ttgacttttt gacatagcaa ggccaaaaat aactttctga  
2160  
atattttttt cttgtgtata agtggaaagg gcatttttca catataagtg ggctaacca  
2220  
tattttcaaa agaacttcat cattgtacaa ctaacaacag taactagccc ttaattatgg  
2280  
tgacagttcc ttattgggtg gtgtgagatt actctagcaa ctattacagt ataacacaga  
2340  
tgatcttctc cacacacccc atcaccaga taatttacag ttctgttaac agtgaggttg  
2400  
ataaagtatt actgataaaa aattatctaa ggaaaaaac agaaaattat ttggtgtggc  
2460

catcttacct gcttatgtct cctacacaaa gctaaatatt ctagcagtga tgtaatgaaa  
 2520  
 aattacatct tactgttgat atatgtatgc tctggtacac agatgtcatt ttgttgtcac  
 2580  
 agcactacag tgaaatacac aaaaaatgaa attcatataa tgacttaaatt gtattatatg  
 2640  
 ttagaattga caacataaac tacttttgct ttgaaatgat gtatgcttca gtaaaatcat  
 2700  
 attcaaattt aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2760  
 aaaaaa  
 2766

&lt;210&gt; 5020

&lt;211&gt; 433

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5020

Xaa Leu Glu Tyr Trp Arg Arg Arg Glu Glu Glu Glu Arg Trp Arg Met  
 1 5 10 15  
 Glu Met Arg Arg Tyr Glu Glu Asp Met Tyr Trp Arg Arg Met Glu Glu  
 20 25 30  
 Glu Gln His His Trp Asp Asp Arg Arg Met Pro Asp Gly Gly Tyr  
 35 40 45  
 Pro His Gly Pro Pro Gly Pro Leu Gly Leu Leu Gly Val Arg Pro Gly  
 50 55 60  
 Met Pro Pro Gln Pro Gln Gly Pro Ala Pro Leu Arg Arg Pro Asp Ser  
 65 70 75 80  
 Ser Asp Asp Arg Tyr Val Met Thr Lys His Ala Thr Ile Tyr Pro Thr  
 85 90 95  
 Glu Glu Glu Leu Gln Ala Val Gln Lys Ile Val Ser Ile Thr Glu Arg  
 100 105 110  
 Ala Leu Lys Leu Val Ser Asp Ser Leu Ser Glu His Glu Lys Asn Lys  
 115 120 125  
 Asn Lys Glu Gly Asp Asp Lys Lys Glu Gly Gly Lys Asp Arg Ala Leu  
 130 135 140  
 Lys Gly Val Leu Arg Val Gly Val Phe Ala Lys Gly Leu Leu Leu Arg  
 145 150 155 160  
 Gly Asp Arg Asn Val Asn Leu Val Leu Leu Cys Ser Glu Lys Pro Ser  
 165 170 175  
 Lys Thr Leu Leu Ser Arg Ile Ala Glu Asn Leu Pro Lys Gln Leu Ala  
 180 185 190  
 Phe Ile Ser Pro Glu Lys Tyr Asp Ile Lys Cys Ala Val Ser Glu Ala  
 195 200 205  
 Ala Ile Ile Leu Asn Ser Cys Val Glu Pro Lys Met Gln Val Thr Ile  
 210 215 220  
 Thr Leu Thr Ser Pro Ile Ile Arg Glu Glu Asn Met Arg Glu Gly Asp  
 225 230 235 240  
 Val Thr Ser Gly Met Val Lys Asp Pro Pro Asp Val Leu Asp Arg Gln  
 245 250 255  
 Lys Cys Leu Asp Ala Leu Ala Ala Leu Arg His Ala Lys Trp Phe Gln  
 260 265 270  
 Ala Arg Ala Asn Gly Leu Gln Ser Cys Val Ile Ile Ile Arg Ile Leu



1	5	10	15
Phe Glu Val	Leu Arg Gln His Ser Thr Gly Asp	Leu Gln Tyr Ser Pro	
20	25	30	
Asp Tyr Lys	Asn Tyr Leu Ala Leu Ile Asn His Arg	Pro His Val Lys	
35	40	45	
Gly Asn Ser	Ser Cys Tyr Gly Val Leu Pro Thr	Glu Glu Pro Val Tyr	
50	55	60	
Asn Trp Arg	Thr Val Ile Asn Ser Ala Ala Asp	Phe Tyr Phe Glu Gly	
65	70	75	80
Asn Ile His	Gln Ser Leu Gln Asn Ile Thr Glu Asn Gln	Leu Val Gln	
85	90	95	
Pro Thr Ile	Leu Gln Gln Lys Gly Gly Lys Gly Arg	Lys Lys Leu Arg	
100	105	110	
Leu Phe Glu	Tyr Leu His Glu Ser Leu Cys Asn Pro		
115	120		

&lt;210&gt; 5023

&lt;211&gt; 3482

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5023

```

gggcccgcgc agaggcccg cgcagcgca gggaagcctg ggggccagag gtcgccgctg
60
ccgccatgcc gctgctcttc ctcgagcgct tcccctggcc cagcctccgc acctacacgg
120
gcctcagcgg cctggccctg ctgggcacca tcatcagcgc ctaccgcgcg ctcagccagc
180
ccgaggcccg ccccggcgag ccggaccagc taacggcctc gctgcagcct gagccgccgg
240
cgcccccccg gccgagcgcc gggggacccc gggcccgca tgtggcccag tacctgctct
300
cagacagcct ctctgtgtgg gttctagtaa ataccgcttg ctgtgttttg atgttggtgg
360
ctaagctcat ccagtgtatt gtgtttggcc ctcttcgagt gaggtagaga cagcatctca
420
aagacaaatt ttggaatttt atttctaca agttcatttt catctttggt gtgctgaatg
480
tccagacagt ggaagagggt gtcattgtgt gcctctggtt tgccggactt gtctttctgc
540
acctgatggt tcagctctgc aaggatcgat ttgaatatct ttccttctcg ccaccacgc
600
cgatgagcag ccacggtcga gtctgtccc tgttggttgc catgctgctt tctgctgtg
660
gactggcggc cgtctgctcc atcaccggct acaccacgg aatgcacacc ttggctttca
720
tggtgcaga gtctcttctt gtgacagtga ggactgtca tgtgatttta cgatacgtaa
780
ttcacctctg ggacctcaac cacgaaggga cgtgggaagg aaaggggacg tatgtctatt
840
acacagactt tgtcatggag ctcaactctc tgtccctgga cctcatgcac catattcaca
900
tggtgttatt tggcaacatc tggttatcca tggccagcct ggtcatcttt atgcagctgc
960

```

gttacctgtt tcatgaggtg caacgtcgaa ttcgtcggca caagaactat ctacgtgtgg  
1020  
ttggaaacat ggaggccagg tttgcagttg caactccaga ggagctggct gtcaacaatg  
1080  
acgactgtgc catctgttgg gactccatgc aggctgcgcg gaaactgccc tgtggacatc  
1140  
ttttccacaa ctctgtctt cgttcctggc tagaacaaga cacctcctgt ccaacatgca  
1200  
gaatgtctct taatattgcc gacaataatc gtgtcagggg agaacatcaa ggagagaact  
1260  
tggatgagaa tttggttcct gtagcagcag ccgaaggagg acctcgctta aaccaacaca  
1320  
atcacttctt ccatttcgat ggggtctcgga ttgcgagctg gctgccgagt ttttcggttg  
1380  
aagtgatgca caccaccaac attcttggca ttacgcaggc cagcaactcc cagctcaatg  
1440  
caatggctca tcagattcaa gagatgtttc cccagggttc ataccatctg gtactgcagg  
1500  
acctccagct gacacgctca gttgaaataa caacagacaa tatttttagaa ggacggattc  
1560  
aagtaccttt tcctacacag cggtcagata gcatcagacc tgcattgaac agtcctgtgg  
1620  
aaaggccaag cagtgaccag gaagaggagg aaacttctgc tcagaccgag cgtgtgccac  
1680  
tggacctcag tcctcgctg gaggagacgc tggacttcgg cgagggtggaa gtggagccca  
1740  
gtgagggtga agacttcgag gctcgtggga gccgcttctc caagtctgct gatgagagac  
1800  
agcgcattgct ggntgcagcg taaggacgaa ctctccagc aagctcgcaa acgtttcttg  
1860  
aacaaaagtt ctgaagatga tgcggcctca gagagcttcc tccccctcga aggtgcgtcc  
1920  
tctgaccccg tgacctgcg tcgaaggatg ctggctgccg cccggaacgg aggcttcaga  
1980  
agcagcagac ctctagcgc tcccttgctt tctcagctg cctctgcgc cctgtgcccg  
2040  
actgactgga ggaggcctgt cccaattctg ccgctccatg gaaaagcggg cttgactgca  
2100  
ttgccgctgt ataaagcatg tggctctata gtgtttggac agctgataaa tttaatcctt  
2160  
ctttgtaata ctttcaatgt gacatttctc tcccccttag aaacactgca aattttaact  
2220  
gtaggatga tctcttctgg tgttgactgg actgcttggg gtgggggacg atcaggagga  
2280  
agtgagnacg tcgcctgcct gcagcaggca gcttctactc ctgcctcatg catacgtccc  
2340  
acaaatgcag gtgtcctgag caccacaccc agtgggaaga gtgtggggga ggcgcacagt  
2400  
gtgagcccg cccacgctg tggggtaaca tctgttatca aactgctgtc gttgttgtgg  
2460  
aagcatgtag actgtgccag agccagaccc acgggctcat gcaccctga gcagcagggc  
2520  
atcttggaaa aggaactctt ggttcgatac ctggagcaga ggaggggaaa gtccagggct  
2580

ataggggtgtg atgaagtcac ccctttctgt ccactacat ctgggactga ctttccgagc  
 2640  
 ctccagtcca aagccggctt gatttccgtg aactctgggtg ctctgcac tcagtgtgt  
 2700  
 gccccatggg tcccctcccc tctcagcatt tccttggtccc gtctggacct ggggagtggg  
 2760  
 taggcagcaa gctttgggtt atgggtttca ttcattgggtg aagtaaatta ggcagtgcta  
 2820  
 aagcctgtgg gtttgggtcct tgaacaagat gtgggccttg caagatggga gagtaaacct  
 2880  
 tgaagggtt tattaaagaa ataaaaaga acttttgtat cttttatcct gggagcactg  
 2940  
 cgttttccta gctgtgttat tcttggttta attcagcaga gaaggtaagg tgtgaaccta  
 3000  
 cctgccttgg agagggccca ggtcccaaat ctcttcaaat tcttcacatg ttttaacttta  
 3060  
 aggtattgaa ccatgaagtc atagggtaca gacctcagtt ttatgccccca ttggattact  
 3120  
 tttttttttt ttttttttta ctctttgaaa gctttgtttt gtggtagtcc ttttgggaag  
 3180  
 aatccagtat tatctacaat tattggcaaa gtttaaagt attttacata acggaaagtt  
 3240  
 tttagaatgt tgaaaagtaa ttgaaaaagg tgataggtaa attttaggc aaagataatt  
 3300  
 tatttcaata aatctttcaa aagccttacc ttgaaatgct gttagtaa at tctgtgatt  
 3360  
 tttttttttt aatttggttt gctgagagca tagctatttg tttttattgt aaaacaataa  
 3420  
 taataataaa aagcaaactc taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 3480  
 aa  
 3482

&lt;210&gt; 5024

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5024

Met	Arg	Asp	Ser	Ala	Cys	Trp	Xaa	Gln	Arg	Lys	Asp	Glu	Leu	Leu	Gln
1				5				10					15		
Gln	Ala	Arg	Lys	Arg	Phe	Leu	Asn	Lys	Ser	Ser	Glu	Asp	Asp	Ala	Ala
			20					25					30		
Ser	Glu	Ser	Phe	Leu	Pro	Ser	Glu	Gly	Ala	Ser	Ser	Asp	Pro	Val	Thr
		35					40					45			
Leu	Arg	Arg	Arg	Met	Leu	Ala	Ala	Ala	Arg	Asn	Gly	Gly	Phe	Arg	Ser
	50					55					60				
Ser	Arg	Pro	Pro	Ser	Ala	Pro	Leu	Pro	Ser	Ser	Ala	Ala	Ser	Cys	Ala
	65				70					75				80	
Leu	Cys	Pro	Thr	Asp	Trp	Arg	Arg	Pro	Val	Pro	Ile	Leu	Pro	Leu	His
			85					90					95		
Gly	Lys	Ala	Gly	Leu	Thr	Ala	Leu	Pro	Leu	Tyr	Lys	Ala	Cys	Gly	Leu
		100						105					110		
Ile	Val	Phe	Gly	Gln	Leu	Ile	Asn	Leu	Ile	Leu	Leu	Cys	Asn	Thr	Phe

ngttgcatgt	actgtatgtg	gagcagtgta	cagtgaagcg	gaggcagagc	ggctccgcga
60					
gcttctctcc	actttcccat	agagaaaccc	tgactggccg	ctgaggggcta	gctacacaca
120					
cgccctcacg	cccggcgagc	ccgcgaggtc	actatcatat	gacaaaggct	ttgccgcagt
180					
tcatcttctt	cctgtgttac	tttccatttg	ccttctctgga	atcctgctgg	catcacagaa
240					
gctggaagtt	gtgatgttcc	actgaaatca	caatggaaaag	tctgacttga	ctggtcacag
300					
taatgaaagg	cagtaataga	aataaggatc	attcagcaga	aggagaaggg	gttggaaaac
360					
gaccaaaaacg	aaagtgtgct	ttcagtggca	tccatttgct	agcaaagaaa	cttcttgatt
420					
tttcagaaga	ggaagaagag	gaagacgaag	aggaggatat	tggataaggt	tcaacttctt
480					
gggggcccgat	ggcctaagag	caagagtgtg	gtgaaactga	agatggatga	atcaccagag
540					
cagcgagccc	ggagaccaat	gaatgcattt	cttttatttt	gcaaacgccca	tgcgtctctt
600					



gtacgtcagg aacacccccag gcttgataac cgagggtgcta ccaagatact agctgattgg  
660  
tgggccggttc ttgatccaaa ggaaaagcag aaatacacag acatggccaa ggagtataag  
720  
gatgcattta tgaaagcaaa tcctgggtac aaatgggtgtc ctaccacaaa caagcctgtg  
780  
aaatccccac acccactgtc aatccacgaa agaaactttg ggccttccca tctgactctt  
840  
caagagactt gccaaagcccc aagaaagcaa agactgaaga aatgcctcag cttaactttg  
900  
gaatggctga tcctactcaa atggggaggcc tgagtatgct gctgttagct ggagaacatg  
960  
ctcttggcac accagaggta tcctctggca catgcaggcc tgatgtttca gaatctcctg  
1020  
aattacgtca gaagtcacca ttgtttcagt ttgccgagat atcttcaagt acgtcccact  
1080  
ctgatgcttc tacaaagcag tgtcaaacat ctgccttggt tcagtttgca gagatttctt  
1140  
caaacacttc gcagttgggt ggtgctgagc ctgtaaaacg ctgtggaaag tctgcactct  
1200  
ttcaactggc agagatgtgc ctggcatcag aagggatgaa aatggaagaa tcaaagctaa  
1260  
taaaagcaaa agaatccgat ggtggaagaa ttaaagaatt agagaaggga aaggaagaaa  
1320  
aagaaattaa aatggagaaa acagatgaaa ctaggttaca gaaggaagca gaatttgaaa  
1380  
aatcgggctaa ggaaaattta agagattcta aggaattgag aaattttgag gcattgcaaa  
1440  
tagatgacat aatggctata aaaatggaag atcccaaaga aattagaaag gaagagttag  
1500  
aagaagatca caaatgtagt ctttttctg atttttctta ttctgccagt agcaagataa  
1560  
taattagtga tgttcccagt agaaaggatc atatgtgcca tcctcatgga attatgatca  
1620  
ttgaggatcc cgcagcatta aacaagccag aaaagctaaa aaagaaaaag aagaaaagca  
1680  
aaatggatcg acatggaaat gataaatcca caccacagaa gacttgcaaa aagaggcagt  
1740  
cttcggaatc tgacattgag agcgtcatat ataccattga agccgtcgca aaaggagact  
1800  
ggggcataga gaaacttgga gataccctc gcaagaaggc cgcacatcc tcaagtggca  
1860  
aggggaagcat tttggatgcc aagccaccaa agaaaaaagt gaaatcaaga gagaagaaaa  
1920  
tgtcaaagga gaaatcctca gacaccacca aagagtcaag acctccagat ttcattagta  
1980  
tttctgctag caagaacatt tctgggtgaga caccagaggg tataaaagca gaaccattga  
2040  
cccctatgga agatgcacta ccaccagcc tatcaggaca ggccaagcct gaggacagtg  
2100  
actgtcacag aaaaatagaa acttgtggtt ccaggaaatc cgagaggtct tgcaaagggtg  
2160  
ctctttataa aaccctggtg tctgagggca tgetcacctc tctgcgagct aatgttgaca  
2220

gaggaaaacg aagctcagga aaaggaaact cctctgatca tgaagggtgt tggaatgaag  
 2280  
 aaagctggac atttagtcag agtgggacca gtgggagcaa gaagttcaag aagacaaagc  
 2340  
 caaaagaaga ctgtctcctt ggctccgcaa agctggatga agaatttgaa aaaaaattca  
 2400  
 acagcctccc tcaatatagt cctgtttacat ttgaccggaa atgtgtacct gtcccaagaa  
 2460  
 aaaagaagaa gactggaaat gtgtcctcag aaccgactaa aaccagcaaa ggtcctttcc  
 2520  
 agtctcagaa aaagaactta ttccacaaaa ttgtcagcaa atataagcac aaaaaggaga  
 2580  
 agcccaatgt tccgga  
 2596

<210> 5026  
 <211> 136  
 <212> PRT  
 <213> Homo sapiens

<400> 5026  
 Met Asp Glu Ser Pro Glu Gln Arg Ala Arg Arg Pro Met Asn Ala Phe  
 1 5 10 15  
 Leu Leu Phe Cys Lys Arg His Arg Ser Leu Val Arg Gln Glu His Pro  
 20 25 30  
 Arg Leu Asp Asn Arg Gly Ala Thr Lys Ile Leu Ala Asp Trp Trp Ala  
 35 40 45  
 Val Leu Asp Pro Lys Glu Lys Gln Lys Tyr Thr Asp Met Ala Lys Glu  
 50 55 60  
 Tyr Lys Asp Ala Phe Met Lys Ala Asn Pro Gly Tyr Lys Trp Cys Pro  
 65 70 75 80  
 Thr Thr Asn Lys Pro Val Lys Ser Pro His Pro Leu Ser Ile His Glu  
 85 90 95  
 Arg Asn Phe Gly Pro Ser His Leu Thr Leu Gln Glu Thr Cys Gln Ala  
 100 105 110  
 Pro Arg Lys Gln Arg Leu Lys Lys Cys Leu Ser Leu Thr Leu Glu Trp  
 115 120 125  
 Leu Ile Leu Leu Lys Trp Glu Ala  
 130 135

<210> 5027  
 <211> 359  
 <212> DNA  
 <213> Homo sapiens

<400> 5027  
 ngcggaggcg gggcaggcgc cctgggcgca aggcacggag gcaagggccca gggccagcag  
 60  
 cagcgggcg agcggggaca tgggtggcagt gcgggcaaga cgcacaagtt ctctgccggc  
 120  
 acctaccgcg gcctggagga gtaccgccgg ggcattcttag gagactggtc caacgctatc  
 180  
 tccgcgctct actgcagggtg cagctgatgc attgctggtc tctcatctgc agcttcaca  
 240

gagtgccaag cccctcactc agcccatccc tgggctctgc tccggggccc caagacccag  
 300  
 gaggaggagc gttctgcctg cccctcccca cctcccctgc aatacagcct ttgtgcggn  
 359

<210> 5028  
 <211> 68  
 <212> PRT  
 <213> Homo sapiens

<400> 5028  
 Xaa Gly Gly Gly Ala Gly Ala Leu Gly Ala Arg His Gly Gly Lys Gly  
 1 5 10 15  
 Gln Gly Gln Gln Gln Arg Ala Gln Arg Gly His Gly Gly Ser Ala Gly  
 20 25 30  
 Lys Thr His Lys Phe Ser Ala Gly Thr Tyr Pro Arg Leu Glu Glu Tyr  
 35 40 45  
 Arg Arg Gly Ile Leu Gly Asp Trp Ser Asn Ala Ile Ser Ala Leu Tyr  
 50 55 60  
 Cys Arg Cys Ser  
 65

<210> 5029  
 <211> 1440  
 <212> DNA  
 <213> Homo sapiens

<400> 5029  
 nnacttttta tatcagtacg agctttataa ttcttctttt gttaagttca ttactactaa  
 60  
 tgggttaaatt gtcctacaat taaatgatgg caagcccttc aaactggctt ttatttttta  
 120  
 ttcattgtgtg ctgatatttt tggatcattt gtttactcgt tttttgagtt tacctgattt  
 180  
 tttttttctc tcaggtaata ggaaatgaat gatgatggaa aagtcaatgc tagctctgag  
 240  
 ggggtacttta ttttagttgg attttctaata tggccttatc tggaagtagt tctctttgtg  
 300  
 gttattttga tcttctgctt gatgacactg ataggaaacc tgttcatcat catcctgacg  
 360  
 tacctggact cccatctcca tactcccttg tatttcttcc tttcaaactc ctcatttctg  
 420  
 gatctctgct acaccaccag ctctatccct cagttgctgg tcagtctctg ggggtgtggaa  
 480  
 aagaccattt cttatgctgg ttgcatgggt caactttact tttttctcac actgggaacc  
 540  
 acagagtgtg tectactggt ggtgatgtcc tatgaccgtt atgcagctgt gtgtagacct  
 600  
 ttgcattaca ctgtcctcat gcaactctctg ttctgccact tgttggctgt ggcttcttgg  
 660  
 gtaagtgggt ttacaaaccc agcaacttcat tctccttca ccttctgggt acctctgtgt  
 720  
 ggacaccgcc aaatagatca ctttttctgt gaagtccgg cacttttatg attatcattt  
 780

gtcaataccc gtgaaaataa actgaccctc atgatacaca gctccatttt tgtttctgcta  
 840  
 cttctcaccc tcattttcac ttcctatggg gctattgccc aggctgtact gaggatgcag  
 900  
 tcaaccactg ggcttcagaa agtatttgga acatgtggag ctcacatcat ggttgatatct  
 960  
 ctctttttca ttccggccat gtgcatgtat ctccagccac catcagggaa ttctcaagat  
 1020  
 caaggcaagt tcattgctct cttttatact gttgttacac ctagtcttaa cctctaatc  
 1080  
 tacacctca gaaacaaaga tgtaagaggg gtagtgaaga gactaagggg gtgggagtga  
 1140  
 gcctgtgttt gtgtgatatt aacaatataa tggagtcttt cctcacaatg attcatccat  
 1200  
 ctgttcattt atcaaccatt cttttattca ctactctgt tagcacttgc tgagcatgta  
 1260  
 ctctaacaaa gtcgtggaga tcctggtaac aggtaggaat aaaacacatt cagcttaaat  
 1320  
 accattcact tttggagaaa acagctgtgt aaaatcaaga taaaacatct atagtgatgt  
 1380  
 ttttccatgg cacaaccta atgaatacaa gaaagacttt tcctgattaa aaataaggca  
 1440

&lt;210&gt; 5030

&lt;211&gt; 188

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5030

Met	Asn	Asp	Asp	Gly	Lys	Val	Asn	Ala	Ser	Ser	Glu	Gly	Tyr	Phe	Ile
1				5					10					15	
Leu	Val	Gly	Phe	Ser	Asn	Trp	Pro	Tyr	Leu	Glu	Val	Val	Leu	Phe	Val
			20					25					30		
Val	Ile	Leu	Ile	Phe	Cys	Leu	Met	Thr	Leu	Ile	Gly	Asn	Leu	Phe	Ile
		35					40					45			
Ile	Ile	Leu	Thr	Tyr	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Leu	Tyr	Phe
	50					55					60				
Phe	Leu	Ser	Asn	Leu	Ser	Phe	Leu	Asp	Leu	Cys	Tyr	Thr	Thr	Ser	Ser
65					70					75				80	
Ile	Pro	Gln	Leu	Leu	Val	Ser	Leu	Trp	Gly	Val	Glu	Lys	Thr	Ile	Ser
			85						90					95	
Tyr	Ala	Gly	Cys	Met	Val	Gln	Leu	Tyr	Phe	Phe	Leu	Thr	Leu	Gly	Thr
			100					105					110		
Thr	Glu	Cys	Val	Leu	Leu	Val	Val	Met	Ser	Tyr	Asp	Arg	Tyr	Ala	Ala
		115				120					125				
Val	Cys	Arg	Pro	Leu	His	Tyr	Thr	Val	Leu	Met	His	Ser	Arg	Phe	Cys
		130				135					140				
His	Leu	Leu	Ala	Val	Ala	Ser	Trp	Val	Ser	Gly	Phe	Thr	Asn	Pro	Ala
145					150					155				160	
Leu	His	Ser	Ser	Phe	Thr	Phe	Trp	Val	Pro	Leu	Cys	Gly	His	Arg	Gln
			165						170					175	
Ile	Asp	His	Phe	Phe	Cys	Glu	Val	Pro	Ala	Leu	Leu				
			180						185						

<210> 5031  
 <211> 505  
 <212> DNA  
 <213> Homo sapiens

<400> 5031  
 tggcgcgcct tgacgagtga gccggggagc catggacaac tgtttggcgg ccgcagcgct  
 60  
 gaatgggggtg gaccgacgtt ccctgcagcg ttcagcaagg ctggctctag aagtgctgga  
 120  
 gagggccaag aggagggcgg tggactggca tgccctggag cgtcccaaag gctgcatggg  
 180  
 ggtccttgcc cgggaggcgc cccacctaga gaaacagccg gcagccggcc cgcagcgcg  
 240  
 tctcccgga gagagagaag agagaccccc aacccttagt gcttccttca gaacaatggc  
 300  
 tgaattcatg gactatactt caagtcagtg tgggaaatat tattcatctg tgccagagga  
 360  
 aggaggggca acccatgtct atcgttatca cagaggcgag tcgaagctgc acatgtgctt  
 420  
 ggacataggg aatggtcaga gaaaagacag aaaaaagaca tcccttggtc ctggaggcag  
 480  
 ctatcaaata tcagagcatg ctcca  
 505

<210> 5032  
 <211> 158  
 <212> PRT  
 <213> Homo sapiens

<400> 5032  
 Met Asp Asn Cys Leu Ala Ala Ala Ala Leu Asn Gly Val Asp Arg Arg  
 1 5 10 15  
 Ser Leu Gln Arg Ser Ala Arg Leu Ala Leu Glu Val Leu Glu Arg Ala  
 20 25 30  
 Lys Arg Arg Ala Val Asp Trp His Ala Leu Glu Arg Pro Lys Gly Cys  
 35 40 45  
 Met Gly Val Leu Ala Arg Glu Ala Pro His Leu Glu Lys Gln Pro Ala  
 50 55 60  
 Ala Gly Pro Gln Arg Val Leu Pro Gly Glu Arg Glu Glu Arg Pro Pro  
 65 70 75 80  
 Thr Leu Ser Ala Ser Phe Arg Thr Met Ala Glu Phe Met Asp Tyr Thr  
 85 90 95  
 Ser Ser Gln Cys Gly Lys Tyr Tyr Ser Ser Val Pro Glu Glu Gly Gly  
 100 105 110  
 Ala Thr His Val Tyr Arg Tyr His Arg Gly Glu Ser Lys Leu His Met  
 115 120 125  
 Cys Leu Asp Ile Gly Asn Gly Gln Arg Lys Asp Arg Lys Lys Thr Ser  
 130 135 140  
 Leu Gly Pro Gly Gly Ser Tyr Gln Ile Ser Glu His Ala Pro  
 145 150 155

<210> 5033  
 <211> 2888

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5033

```
nnggatgagg acaaggagga cgacttccgg gctccgctgt acaagaacgt ggatgtgcga
60
ggatatccagg tccgcatgaa gtggtgtgcc acgtgccact tctaccgccc gccgcgctgc
120
tcccactgca gcgctctgtga caactgtgta gaggtgactg ggaagttccg cgggggtgtg
180
aaccctttca cccgaggctg ctgtgggaat gtggagcacg tgctgtgtag ccccctggcg
240
ccccggtacg tgggtggagcc accccggctg ccgctcgcgg tgagtttgaa gccgccttcc
300
cttaggcctg aactcctgga ccgagctgca ccgctcaagg tcaagcttag tgacaacggg
360
ctgaaggctg gcctgggccg tagcaagtcc aagggcagcc tggaccggct ggatgagaag
420
ccactggact tggggccacc actgcccccc aagatagagg ctggcacggt cagcagtgc
480
ctgcagaccc cgcgcccagg cagtgcctgag agtgccctgt cgggtgcagag gaccagcccc
540
ccgacacctg ccatgtacaa gtttaggccg gctttcccca cgggtcccaa ggtgcccttc
600
tgtggaccag gcgagcaggt tccaggccct gattccctga ccctggggga cgacaacatc
660
cgtagcctgg actttgtgtc cgagccgagc ctggacctcc ctgactatgg gccagggggc
720
ctgcatgcag cctacccgcc atccccaccg ctcagcgctt ctgatgcctt ctcgggcgct
780
ttgcgtccc tgagcctcaa ggcctcgagc cggcgggggc gggatcatgt ggccctgcag
840
cccctgcgct ctgagggggg gccccccacg cccaccgta gcatttttgc ccccatgca
900
ctgcccaccc gcaacggcag cctgtcctat gacagcctgc tcaatcctgg ctgcctggt
960
ggccacgcct gccctgcca cccagcagtt ggcgtggccg gataccactc accctacctg
1020
catcctgggg caacggggca cccgccacgg ccctacccc gcagcttcag ccccgctgtg
1080
ggcccccgcc cccgggagcc ctgcgctgtg cgctacgaca acctgtccag gaccatcatg
1140
gcatccatcc aggagcgcaa ggacaggag gagcgtgagc gcctgctgcg ctcccaggcc
1200
gactcactct tcggcgactc aggcgtctat gacgctccca gctcctacag cctgcagcag
1260
gccagtgtgc tgtccgaggg cccccgaggt cccgcgctgc gctatggctc cagagacgac
1320
cttgtggctg ggcccggctt cgggtggcgc cgcaaccctg ccctgcagac gtcactgtcc
1380
tcgctgtcca gctccgtgag ccgtgcaccg cggacgtcgt cctcctccct gcaggctgat
1440
caggccagca gcaacgcccc cggggccccg gccagcagt ggctcacaca ggtcacctgc
1500
```

acgccagggc ctgccctccc cgcccggcac tccccactca ccatacctacg cgggccccaa  
1560  
agctgtcgcc ttcateccaca eggacctccc agagccaccg ccctcgctga ccgtgcagag  
1620  
ggaccacctt cagctgaaga ctcccccaag taagcttaat gggcagtcct cgggcctggc  
1680  
ccggctggga cctgccaccg gccccccagg gccctctgcc agccctacac ggcacacgct  
1740  
ggttaagaag gtgtccggcg tgggtgggac cacctacgag atctcggtgt gaggactgac  
1800  
tgccacacat ccgccatggt gccacgggga ccaggacccc gcagcgcaac cccctcccc  
1860  
accaacttct ctgccccagg gacctgaggc caccacagcc tgggtgtggac ccatacggcg  
1920  
gagagagtgc cagcctcca cagcttgccc caagcgctct gcctgcccgt ccactcatct  
1980  
gcccattggg aagtcggctc actgggacaa gggccactgg gctgggtctgt gtctgggcct  
2040  
gtcccatggc tggggcagtg agggggccca gtcagcctct ttggggcacc ctctctcagc  
2100  
caggcttggc ccactgccat caccacagc cccagatcac cgccaggcca gccccaatg  
2160  
gtccccttac ggacaggtcc cagagatgga cagaggcacc caggggcccc accgtccttc  
2220  
tgacacagcc tgtgggctcc cggaccgagt gtcccccgcc aggctactcc taactaacgc  
2280  
gttgcccttc acggaccccg ctggaagctt gtagcttggc aaggctgatg cttctgccct  
2340  
ggcctgctct ggggtgggtg ggataggtgg acagacggcc agccagccag ctgtggccgg  
2400  
gggcccggct ccatgtgtcc cgtgtctgtg tgctgtgctg ccgcgccgtg tctgatgtgt  
2460  
cagtgtccg gccgccgctg tccctttcat caaagcctta acctttgctt tatgtctctg  
2520  
tgggaggcga cgggggggca ggcgggagca ggcacggggg tgatgctgcc acagggggct  
2580  
ggtgacacct agagccccct cccagccct caggccctcc ctgccaaact ggagaacccc  
2640  
acccaaggc atgccacgtc cgcagccccg gcctggctgc ggtgctcgcg ccgtgggaaa  
2700  
gcacactggg gaggggtcag tgcttccctt ggtgtcaggg acctgagagt aagcacatga  
2760  
cagcgtctgc ttgcgttgtg tctgttttat gtttttatat ctacatctat atatctataa  
2820  
ttttattaaa aaaaagaaaa agaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
2880  
aaaaaaaa  
2888

&lt;210&gt; 5034

&lt;211&gt; 550

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5034

```

Xaa Asp Glu Asp Lys Glu Asp Asp Phe Arg Ala Pro Leu Tyr Lys Asn
 1           5           10           15
Val Asp Val Arg Gly Ile Gln Val Arg Met Lys Trp Cys Ala Thr Cys
          20           25           30
His Phe Tyr Arg Pro Pro Arg Cys Ser His Cys Ser Val Cys Asp Asn
          35           40           45
Cys Val Glu Val Thr Gly Lys Phe Arg Gly Gly Val Asn Pro Phe Thr
          50           55           60
Arg Gly Cys Cys Gly Asn Val Glu His Val Leu Cys Ser Pro Leu Ala
65           70           75           80
Pro Arg Tyr Val Val Glu Pro Pro Arg Leu Pro Leu Ala Val Ser Leu
          85           90           95
Lys Pro Pro Phe Leu Arg Pro Glu Leu Leu Asp Arg Ala Ala Pro Leu
          100          105          110
Lys Val Lys Leu Ser Asp Asn Gly Leu Lys Ala Gly Leu Gly Arg Ser
          115          120          125
Lys Ser Lys Gly Ser Leu Asp Arg Leu Asp Glu Lys Pro Leu Asp Leu
          130          135          140
Gly Pro Pro Leu Pro Pro Lys Ile Glu Ala Gly Thr Phe Ser Ser Asp
145          150          155          160
Leu Gln Thr Pro Arg Pro Gly Ser Ala Glu Ser Ala Leu Ser Val Gln
          165          170          175
Arg Thr Ser Pro Pro Thr Pro Ala Met Tyr Lys Phe Arg Pro Ala Phe
          180          185          190
Pro Thr Gly Pro Lys Val Pro Phe Cys Gly Pro Gly Glu Gln Val Pro
          195          200          205
Gly Pro Asp Ser Leu Thr Leu Gly Asp Asp Asn Ile Arg Ser Leu Asp
          210          215          220
Phe Val Ser Glu Pro Ser Leu Asp Leu Pro Asp Tyr Gly Pro Gly Gly
225          230          235          240
Leu His Ala Ala Tyr Pro Pro Ser Pro Pro Leu Ser Ala Ser Asp Ala
          245          250          255
Phe Ser Gly Ala Leu Arg Ser Leu Ser Leu Lys Ala Ser Ser Arg Arg
          260          265          270
Gly Gly Asp His Val Ala Leu Gln Pro Leu Arg Ser Glu Gly Gly Pro
          275          280          285
Pro Thr Pro His Arg Ser Ile Phe Ala Pro His Ala Leu Pro Asn Arg
          290          295          300
Asn Gly Ser Leu Ser Tyr Asp Ser Leu Leu Asn Pro Gly Ser Pro Gly
305          310          315          320
Gly His Ala Cys Pro Ala His Pro Ala Val Gly Val Ala Gly Tyr His
          325          330          335
Ser Pro Tyr Leu His Pro Gly Ala Thr Gly Asp Pro Pro Arg Pro Leu
          340          345          350
Pro Arg Ser Phe Ser Pro Val Leu Gly Pro Arg Pro Arg Glu Pro Ser
          355          360          365
Pro Val Arg Tyr Asp Asn Leu Ser Arg Thr Ile Met Ala Ser Ile Gln
          370          375          380
Glu Arg Lys Asp Arg Glu Glu Arg Glu Arg Leu Leu Arg Ser Gln Ala
385          390          395          400
Asp Ser Leu Phe Gly Asp Ser Gly Val Tyr Asp Ala Pro Ser Ser Tyr
          405          410          415
Ser Leu Gln Gln Ala Ser Val Leu Ser Glu Gly Pro Arg Gly Pro Ala

```



420 425 430  
 Leu Arg Tyr Gly Ser Arg Asp Asp Leu Val Ala Gly Pro Gly Phe Gly  
 435 440 445  
 Gly Ala Arg Asn Pro Ala Leu Gln Thr Ser Leu Ser Ser Leu Ser Ser  
 450 455 460  
 Ser Val Ser Arg Ala Pro Arg Thr Ser Ser Ser Ser Leu Gln Ala Asp  
 465 470 475 480  
 Gln Ala Ser Ser Asn Ala Pro Gly Ala Pro Ala Gln Gln Trp Leu Thr  
 485 490 495  
 Gln Val Thr Cys Thr Pro Gly Pro Ala Leu Pro Ala Arg His Ser Pro  
 500 505 510  
 Leu Thr Ile Leu Arg Gly Pro Gln Ser Cys Arg Leu His Pro His Gly  
 515 520 525  
 Pro Pro Arg Ala Thr Ala Leu Ala Asp Arg Ala Glu Gly Pro Pro Ser  
 530 535 540  
 Ala Glu Asp Ser Pro Lys  
 545 550

<210> 5035  
 <211> 2002  
 <212> DNA  
 <213> Homo sapiens

<400> 5035  
 cggccgtgcg ggcacgccat ggacttcaac atgaagaagc tggcgctcgga cgcgggcatc  
 60  
 ttctttcacc gggcggtgca gttcacggag gagaaatttg gccaggctga gaagactgag  
 120  
 cttgatgccc actttgaaaa ctttctggcc cgggcagaca gcaccaagaa ctggacagag  
 180  
 aagatcttga ggcagacaga ggtgctgctg cagcccaacc ccagtgcccc agtggaggag  
 240  
 ttctgtatg agaagctgga caggaaggtc ccctcaaggg tcaccaacgg ggagctgctg  
 300  
 gctcagtaca tggcagacgc ggccagttag ctggggccga ccacccccta tgggaagaca  
 360  
 ctgatcaagg tggcagaagc tgaaaagcaa ctgggagccg cggagaggga ttttatccac  
 420  
 acggcctcca tcagcttctt cacacccttg cgcaacttcc tggaggggga ctggaagacc  
 480  
 atctcgaagg agagtcggct cctccaaaac cggcgtctgg acttggatgc ctgcaaagcg  
 540  
 aggctgaaga aggccaaggc tgcagaagcc aaagccacgc tctggaatga tgaagtggac  
 600  
 aaggccgagc aggagctccg cgtggcccag acagagtttg accggcaagc agaagtgacc  
 660  
 cgtctcttgc tggagggaat cagtagcact cacgtgaacc acctgcgctg cctccacgag  
 720  
 ttcgtcaagt ctacagaca ctactacgca cagtgtctacc gccacatgct ggacttgcag  
 780  
 aagcagctgg gcagctccca ggggtgccata tcccggcacc ttcgtgggca ccacagagcc  
 840  
 cgctctccac ccctgagcag cacctcacc accactgctg cggccactat gcctgtggtg  
 900

ccctctgtgg ccagcctggc ccctccgggg gaggcctcgc tctgcctgga agaggtggcc  
 960  
 ccccttgcca gtgggacccg caaagctcgg gtgctctatg actacgaggc agccgacagc  
 1020  
 agtgagctgg ccctgctggc tgatgagctc atcactgtct acagcctgcc tggcatggac  
 1080  
 cctgactggc tcattggcga gagaggcaac aagaaggga aggtccctgt cacctacttg  
 1140  
 gaactgctca gctaggcagg tgcccccatc cccccgcat tctggcctag gcaggagagg  
 1200  
 atgggagcag ccctgccact taacttgttt gttggtgaca cagttgttca gagtggggag  
 1260  
 aattcacccc attctgtccc tgcccctagt cacctagctg tgagggtgcc tgaggctgaa  
 1320  
 tggctccacc cctccccag ccctgcttct gacctgtggc tctggagccc ctgcccctgc  
 1380  
 ctgcatcccc gagcacccca ccctccaggc tccactaagg agggaggggc tgtctgcagc  
 1440  
 agctgcactc agcacctagg ccagggtggg gccgccgag atgggctcag gaagccccag  
 1500  
 gtgcactcag cgagagccct gcctttcagt tgccaaaagc tgcacaggg gaatgcggca  
 1560  
 aggcacacag ggctctggca gcccctgggg actgggcgct gcccctggga ggggagagcc  
 1620  
 tggccagggc tgggtgttggg cccggagcag catcttccgg tgctatcctc ccctcccacc  
 1680  
 cctcacagct caagccaagt ccagcggccg cagtcttcac ctctccacac tcacttttta  
 1740  
 tctggtgttt ttacttctgc ctgcgtttgc tctctagcca ataaaccgtc cttgtgtgag  
 1800  
 agcgcgaagc tcgggtgctc tatgactacg aggcagccga cagcagtgag ctggccctgc  
 1860  
 tggctgatga gctcatcact gtctacagcc tgccctggcat ggaccctgac tggctcattg  
 1920  
 gcgagagagg caacaagaag ggcaagggtc ctgtcaccta cttggaactg ctcagctagg  
 1980  
 caggtgcccc catccccccc gc  
 2002

&lt;210&gt; 5036

&lt;211&gt; 384

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5036

Arg	Pro	Cys	Gly	His	Ala	Met	Asp	Phe	Asn	Met	Lys	Lys	Leu	Ala	Ser
1				5					10					15	
Asp	Ala	Gly	Ile	Phe	Phe	Thr	Arg	Ala	Val	Gln	Phe	Thr	Glu	Glu	Lys
			20					25					30		
Phe	Gly	Gln	Ala	Glu	Lys	Thr	Glu	Leu	Asp	Ala	His	Phe	Glu	Asn	Leu
			35				40					45			
Leu	Ala	Arg	Ala	Asp	Ser	Thr	Lys	Asn	Trp	Thr	Glu	Lys	Ile	Leu	Arg
	50					55					60				
Gln	Thr	Glu	Val	Leu	Leu	Gln	Pro	Asn	Pro	Ser	Ala	Arg	Val	Glu	Glu

65					70					75					80
Phe	Leu	Tyr	Glu	Lys	Leu	Asp	Arg	Lys	Val	Pro	Ser	Arg	Val	Thr	Asn
				85					90					95	
Gly	Glu	Leu	Leu	Ala	Gln	Tyr	Met	Ala	Asp	Ala	Ala	Ser	Glu	Leu	Gly
			100					105					110		
Pro	Thr	Thr	Pro	Tyr	Gly	Lys	Thr	Leu	Ile	Lys	Val	Ala	Glu	Ala	Glu
		115					120					125			
Lys	Gln	Leu	Gly	Ala	Ala	Glu	Arg	Asp	Phe	Ile	His	Thr	Ala	Ser	Ile
	130					135					140				
Ser	Phe	Leu	Thr	Pro	Leu	Arg	Asn	Phe	Leu	Glu	Gly	Asp	Trp	Lys	Thr
145					150					155					160
Ile	Ser	Lys	Glu	Ser	Arg	Leu	Leu	Gln	Asn	Arg	Arg	Leu	Asp	Leu	Asp
				165					170					175	
Ala	Cys	Lys	Ala	Arg	Leu	Lys	Lys	Ala	Lys	Ala	Ala	Glu	Ala	Lys	Ala
			180					185					190		
Thr	Leu	Trp	Asn	Asp	Glu	Val	Asp	Lys	Ala	Glu	Gln	Glu	Leu	Arg	Val
		195					200					205			
Ala	Gln	Thr	Glu	Phe	Asp	Arg	Gln	Ala	Glu	Val	Thr	Arg	Leu	Leu	Leu
	210					215					220				
Glu	Gly	Ile	Ser	Ser	Thr	His	Val	Asn	His	Leu	Arg	Cys	Leu	His	Glu
225					230					235				240	
Phe	Val	Lys	Ser	Gln	Thr	Thr	Tyr	Tyr	Ala	Gln	Cys	Tyr	Arg	His	Met
				245					250				255		
Leu	Asp	Leu	Gln	Lys	Gln	Leu	Gly	Ser	Ser	Gln	Gly	Ala	Ile	Ser	Arg
		260						265					270		
His	Leu	Arg	Gly	His	His	Arg	Ala	Arg	Leu	Pro	Pro	Leu	Ser	Ser	Thr
	275						280					285			
Ser	Pro	Thr	Thr	Ala	Ala	Ala	Thr	Met	Pro	Val	Val	Pro	Ser	Val	Ala
	290					295					300				
Ser	Leu	Ala	Pro	Pro	Gly	Glu	Ala	Ser	Leu	Cys	Leu	Glu	Glu	Val	Ala
305					310					315				320	
Pro	Pro	Ala	Ser	Gly	Thr	Arg	Lys	Ala	Arg	Val	Leu	Tyr	Asp	Tyr	Glu
				325					330					335	
Ala	Ala	Asp	Ser	Ser	Glu	Leu	Ala	Leu	Leu	Ala	Asp	Glu	Leu	Ile	Thr
			340					345					350		
Val	Tyr	Ser	Leu	Pro	Gly	Met	Asp	Pro	Asp	Trp	Leu	Ile	Gly	Glu	Arg
	355						360					365			
Gly	Asn	Lys	Lys	Gly	Lys	Val	Pro	Val	Thr	Tyr	Leu	Glu	Leu	Leu	Ser
	370					375					380				

&lt;210&gt; 5037

&lt;211&gt; 2102

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5037

gcactgcagc ctgggcgaca gagcaaaaact ccgtctcaac aacaacgaca acaaaaattc  
60

agtcttcagg ttttcttttag aaaacttgaa gatctggcca cagctggcat cctggcagcg  
120

gtttgctgga gttgagggtc agccgtccct ctgcagggtg ggtcaccctc ctgttaacca  
180

cgccctgccc cgccccgctt cctccctctc gtgcgtcatc aagcatttgc tgttgttttc  
240

ctcatagtag tgataagaga aaagtgaat atctttgtct cctgtctct gtcaaaagtg  
300  
ggaaaacgca agatagacca ggagggccgt gtgtttcaag aaaagtggga gagagcgtat  
360  
ttcttcgtgg aagtacagaa tattccaaca tgtctcatat gcaaacaaag catgtctgtg  
420  
tccaaagaat ataacctaag acgccactat caaaccaatc acagcaagca ttatgaccag  
480  
tatacggaag gaatgcgtga cgagaagctt cacgagctga aaaaagggtc caggaagtat  
540  
ctcttaggct catcagacac cgagtgtccc gagcaaaaac aagtgtttgc aaaccaagt  
600  
ccaaccaga aatccccctg gcagcctgta gaggacctag ctgggaactt atgggagaag  
660  
ttacgtgaaa aaatcaggtc ttttgtggca tattctatcg caatcgatga gatcacggat  
720  
ataaataata ccaccagtt ggccatattc atccgtggtg tcgatgagaa ttcgatgtg  
780  
tccgaagaac ttctggacac ggtgcccatg acgggtacaa aatctggcaa cgagatcttt  
840  
tcgctgtgtg agaagagcct gaaaaagttc tgtatcgact ggtcgaaatt agtaagcgtg  
900  
gcctccactg gcaccccagc gatggtggat gccataaacg ggcttgtcac aaaactgaag  
960  
tccaggggtg cgacgttctg caagggtgag gaactgaagt ccatctgttg tataattcat  
1020  
ccggaatcac tctgtgctca gaagttgaag atggaccacg tcatggacgt ggtagtgaag  
1080  
tccgtgaact ggatatgtc ccggggactg aaccacagcg agttcacaac ctgtctctat  
1140  
gagctggaca gccagtatgg tagcctcctg tactacacgg agattaagtg gtcagtcgc  
1200  
gggctcgtgc taaagagatt ttctgaatcc ttggaagaaa tcgactcctt catgtcatcc  
1260  
agagggaac ccctgcctca actgagctcc atagattgga tccgagacct ggccttcttg  
1320  
gttgacatga cgatgcatct gaacgctttg aacatctctc tccaaggaca ctcccaaact  
1380  
gtcacgcaga tgtatgacct gatccgggag ttcttagcaa aactgtgcct ctgggagact  
1440  
catttgacga ggaataatct ggcccacttt cccacctga aattggcttc cagaaatgaa  
1500  
agcgatggcc tgaactacat tccaaaatc gcggaactca agaccgaatt ccagaaaagg  
1560  
ctgtctgatt tcaaactcta cgaaagcgaa ctgactctgt tcagctcccc gttctccacg  
1620  
aagatcgaca gtgtgcacga ggagctccag atggagggtta tcgacctgca atgcaacacg  
1680  
gtcctgaaga cgaaatacga caagggtgga ataccagaat tctacaagta cctctggggg  
1740  
agctacccga aatacaagca ccattgcgca aagattcttt ccatgttcgg gagcacctac  
1800  
atctgcgaac agctgttctc cattatgaaa ctgagcaaaa caaaatactg ctcccagtta  
1860

aaggattccc agtgggattc tgtactccac atcgcaacgt gatggagaga aaactcctgg  
 1920  
 cagggcccta tgggtgggaaa ggctggagtc ttctagtccc aagggattgg gagatgacaa  
 1980  
 aatgaatttt tttttctttt ttgagatgga gtcttgctct gtcgcccagg ttggagtgca  
 2040  
 gtggcgtgat ctgggcttac tgcaacttcc agctcctggg ttcgaacgat tctcctgcct  
 2100  
 ca  
 2102

<210> 5038  
 <211> 533  
 <212> PRT  
 <213> Homo sapiens

<400> 5038  
 Gly Lys Arg Lys Ile Asp Gln Glu Gly Arg Val Phe Gln Glu Lys Trp  
 1 5 10 15  
 Glu Arg Ala Tyr Phe Phe Val Glu Val Gln Asn Ile Pro Thr Cys Leu  
 20 25 30  
 Ile Cys Lys Gln Ser Met Ser Val Ser Lys Glu Tyr Asn Leu Arg Arg  
 35 40 45  
 His Tyr Gln Thr Asn His Ser Lys His Tyr Asp Gln Tyr Thr Glu Arg  
 50 55 60  
 Met Arg Asp Glu Lys Leu His Glu Leu Lys Lys Gly Leu Arg Lys Tyr  
 65 70 75 80  
 Leu Leu Gly Ser Ser Asp Thr Glu Cys Pro Glu Gln Lys Gln Val Phe  
 85 90 95  
 Ala Asn Pro Ser Pro Thr Gln Lys Ser Pro Val Gln Pro Val Glu Asp  
 100 105 110  
 Leu Ala Gly Asn Leu Trp Glu Lys Leu Arg Glu Lys Ile Arg Ser Phe  
 115 120 125  
 Val Ala Tyr Ser Ile Ala Ile Asp Glu Ile Thr Asp Ile Asn Asn Thr  
 130 135 140  
 Thr Gln Leu Ala Ile Phe Ile Arg Gly Val Asp Glu Asn Phe Asp Val  
 145 150 155 160  
 Ser Glu Glu Leu Leu Asp Thr Val Pro Met Thr Gly Thr Lys Ser Gly  
 165 170 175  
 Asn Glu Ile Phe Ser Arg Val Glu Lys Ser Leu Lys Lys Phe Cys Ile  
 180 185 190  
 Asp Trp Ser Lys Leu Val Ser Val Ala Ser Thr Gly Thr Pro Ala Met  
 195 200 205  
 Val Asp Ala Asn Asn Gly Leu Val Thr Lys Leu Lys Ser Arg Val Ala  
 210 215 220  
 Thr Phe Cys Lys Gly Ala Glu Leu Lys Ser Ile Cys Cys Ile Ile His  
 225 230 235 240  
 Pro Glu Ser Leu Cys Ala Gln Lys Leu Lys Met Asp His Val Met Asp  
 245 250 255  
 Val Val Val Lys Ser Val Asn Trp Ile Cys Ser Arg Gly Leu Asn His  
 260 265 270  
 Ser Glu Phe Thr Thr Leu Leu Tyr Glu Leu Asp Ser Gln Tyr Gly Ser  
 275 280 285  
 Leu Leu Tyr Tyr Thr Glu Ile Lys Trp Leu Ser Arg Gly Leu Val Leu

```

      290              295              300
Lys Arg Phe Phe Glu Ser Leu Glu Glu Ile Asp Ser Phe Met Ser Ser
305              310              315              320
Arg Gly Lys Pro Leu Pro Gln Leu Ser Ser Ile Asp Trp Ile Arg Asp
              325              330              335
Leu Ala Phe Leu Val Asp Met Thr Met His Leu Asn Ala Leu Asn Ile
              340              345              350
Ser Leu Gln Gly His Ser Gln Ile Val Thr Gln Met Tyr Asp Leu Ile
              355              360              365
Arg Ala Phe Leu Ala Lys Leu Cys Leu Trp Glu Thr His Leu Thr Arg
              370              375              380
Asn Asn Leu Ala His Phe Pro Thr Leu Lys Leu Ala Ser Arg Asn Glu
385              390              395              400
Ser Asp Gly Leu Asn Tyr Ile Pro Lys Ile Ala Glu Leu Lys Thr Glu
              405              410              415
Phe Gln Lys Arg Leu Ser Asp Phe Lys Leu Tyr Glu Ser Glu Leu Thr
              420              425              430
Leu Phe Ser Ser Pro Phe Ser Thr Lys Ile Asp Ser Val His Glu Glu
              435              440              445
Leu Gln Met Glu Val Ile Asp Leu Gln Cys Asn Thr Val Leu Lys Thr
              450              455              460
Lys Tyr Asp Lys Val Gly Ile Pro Glu Phe Tyr Lys Tyr Leu Trp Gly
465              470              475              480
Ser Tyr Pro Lys Tyr Lys His His Cys Ala Lys Ile Leu Ser Met Phe
              485              490              495
Gly Ser Thr Tyr Ile Cys Glu Gln Leu Phe Ser Ile Met Lys Leu Ser
              500              505              510
Lys Thr Lys Tyr Cys Ser Gln Leu Lys Asp Ser Gln Trp Asp Ser Val
              515              520              525
Leu His Ile Ala Thr
              530

```

&lt;210&gt; 5039

&lt;211&gt; 3059

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5039

```

gggccatgca gggcgcagac cggctaaacc ctgctgagac ccggctccgt gcgtccaggg
60
gcggctaattg ccctcacgct gtctacgctg ctgcaaccgg gccgcatctg gacggggcgc
120
cgcgcgcgga gcgacgccgg gccagcaatg ctgcttgagg cctctctggt gggggtgctg
180
ctgttctcca agctggtgct gaaactgcc tggacccagg tgggattctc cctgttgctc
240
ctctacttgg gatctggcgg ctggcgcttc atccgggtct tcatcaagac catcaggcgc
300
gatatctttg gcggcctggt cctcctgaag gtgaaggcaa aggtgcgaca gtgcctgcag
360
gagcggcgga cagtgcccat tttgtttgcc tctaccgttc ggcgccaccc cgacaagacg
420
gccctgatct tcgagggcac agataccacac tggaccttcc gccagctgga tgagtactca
480

```

agcagtgtag ccaacttcct gcaggcccgg ggccctggcct cgggcatgt ggctgccatc  
540  
ttcatggaga accgcaatga gttcgtgggc ctatggctgg gcatggccaa gctcgggtgtg  
600  
gaggcagccc tcatcaacac caacctgcgg cgggatgtct tgctccactg cctcaccacc  
660  
tcgcgcgcac gggcccttgt ctttggcagc gaaatggcct cagccatctg tgagggtccat  
720  
gccagcccgg acccctcgct cagcctcttc tgctctggct cctgggagcc cgggtgcgggtg  
780  
cctccaagca cagaacacct ggaccctctg ctgaaagatg ctccaagca ccttcccagt  
840  
tgtcctgaca agggcttcac agataaactg ttctacatct acacatccgg caccacaggg  
900  
ctgccaagg ccgccatcgt ggtgcacagc aggtattacc gcatggctgc cctgggtgtac  
960  
tatggattcc gcatgcccgc caacgacatc gtctatgact gcctccccct ctaccactca  
1020  
gcaggaaaca tcgtgggaat cggccagtgc ctgctgcatg gcatgacggg ggtgattcgg  
1080  
aagaagttct cagcctcccg gttctgggac gattgtatca agtacaactg cacgattgtg  
1140  
cagtacattg gtgaactgtg ccgctacctc ctgaaccagc caccgcggga ggcagaaaac  
1200  
cagcaccagg ttgcgatggc actaggcaat gcctccggca gtccatctgg accaactttt  
1260  
ccagccgctt ccacataccc cagggtggctg agttctacgg ggccagagtg caactgtage  
1320  
ctgggcaact tcgacagcca ggtggggggc tgtgggttca atagccgcat cctgtccttc  
1380  
gtgtacccca tccggttggg acgtgtcaac gaggacacca tggagctgat ccggggggccc  
1440  
gacggcgtct gcattccctg ccagccaggt gagccggggc agctgggtggg ccgcatcatc  
1500  
cagaaagacc ccctgcgccg cttcgatggc tacctcaacc agggcgccaa caacaagaag  
1560  
attgccaagg atgtcttcaa gaagggggac caggcctacc ttactgggtga tgtgctgggtg  
1620  
atggacgagc tgggctacct gtacttccga gaccgcactg gggacacggt ccgctggaaa  
1680  
ggtgagaacg tgtccaccac cgaggtggaa ggcacactca gccgcctgct ggacatggct  
1740  
gacgtggccg tgtatgggtg cgaggtgcca ggaaccgagg gccggggccgg aatggctgct  
1800  
gtggccagcc cactggcaa ctgtgacctg gagcgctttg ctcaggctct ggagaaggaa  
1860  
cttccccctg atgcgcgcc catcttctg cgctcctgc ctgagctgca caaaacagga  
1920  
acctacaagt tccagaagac agagctacgg aaggaggcct ttgaccggc tattgtgaag  
1980  
acccgctgtt ctatctagat gcagaagggc cgctacgtcc cgctggacca agaggcctac  
2040  
agccgcatcc aggcaggcaa ggagaagctg tgattcccc catccctctg agggccggcg  
2100

gatgctggat ccggagcccc aggttccgcc ccagagcggg cctggacaag gccagaccaa  
2160  
agcaagcagg gcctggcacc tccatcctga ggtgctgccc ctccatccaa aactgccaa  
2220  
tgactcattg ccttcccaac ccttccagag gctttctgtg aaagtctcat gtccaagttc  
2280  
cgtcttctgg gctgggcagg cctcggggtt cccaggctga gactgacggg ttttctcagg  
2340  
atgatgtctt gggtagaggt agggagagga caaggggtca ccgagccctt cccagagagc  
2400  
agggagctta taaatggaac cagagcagaa gtccccagac tcaggaagtc aacagagtgg  
2460  
gcagggacag tggtagcatc catctggtgg ccaaagagaa tcgtagcccc agagctgccc  
2520  
aagttcactg ggctccaccc ccacctccag gaggggagga gaggacctga catctgaagg  
2580  
tggtccctga tgccccatct acagcaggag gtcaggacca cgccccctggc ctctccccac  
2640  
tcacctatcc tctccctgg gtggtgcct gattatccct caggcagggc ctctcagtc  
2700  
ttgtgggtct gtgtcacctc catctcagtc ttggcctggc tatgagggga ggaggaatgg  
2760  
gagcgggggc tcaggggcca ataaactctg ccttgagtcc tcctagcctg tgtgcaaacc  
2820  
acccaagccc accctgaccc cagaaccca cagccccact gtggccgctt gatccccac  
2880  
gccaaacccc tggccattg acccgctca tctgttcatt cacttatcta agctgagggg  
2940  
gtagcaggta agatgccga gccctgcct ccaatgtgct gggtcagccg gggcagtgcc  
3000  
catgtgaatc tggcaagggt tttaacagtg tgggcttgaa agtccaaacc aaaaaaaaa  
3059

&lt;210&gt; 5040

&lt;211&gt; 616

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5040

Met	Leu	Leu	Gly	Ala	Ser	Leu	Val	Gly	Val	Leu	Leu	Phe	Ser	Lys	Leu
1				5					10					15	
Val	Leu	Lys	Leu	Pro	Trp	Thr	Gln	Val	Gly	Phe	Ser	Leu	Leu	Phe	Leu
			20					25					30		
Tyr	Leu	Gly	Ser	Gly	Gly	Trp	Arg	Phe	Ile	Arg	Val	Phe	Ile	Lys	Thr
			35				40					45			
Ile	Arg	Arg	Asp	Ile	Phe	Gly	Gly	Leu	Val	Leu	Leu	Lys	Val	Lys	Ala
			50			55				60					
Lys	Val	Arg	Gln	Cys	Leu	Gln	Glu	Arg	Arg	Thr	Val	Pro	Ile	Leu	Phe
65					70					75				80	
Ala	Ser	Thr	Val	Arg	Arg	His	Pro	Asp	Lys	Thr	Ala	Leu	Ile	Phe	Glu
				85					90					95	
Gly	Thr	Asp	Thr	His	Trp	Thr	Phe	Arg	Gln	Leu	Asp	Glu	Tyr	Ser	Ser
			100					105						110	
Ser	Val	Ala	Asn	Phe	Leu	Gln	Ala	Arg	Gly	Leu	Ala	Ser	Gly	Asp	Val



		115					120					125				
Ala	Ala	Ile	Phe	Met	Glu	Asn	Arg	Asn	Glu	Phe	Val	Gly	Leu	Trp	Leu	
	130					135					140					
Gly	Met	Ala	Lys	Leu	Gly	Val	Glu	Ala	Ala	Leu	Ile	Asn	Thr	Asn	Leu	
145					150					155					160	
Arg	Arg	Asp	Ala	Leu	Leu	His	Cys	Leu	Thr	Thr	Ser	Arg	Ala	Arg	Ala	
				165					170					175		
Leu	Val	Phe	Gly	Ser	Glu	Met	Ala	Ser	Ala	Ile	Cys	Glu	Val	His	Ala	
			180					185					190			
Ser	Pro	Asp	Pro	Ser	Leu	Ser	Leu	Phe	Cys	Ser	Gly	Ser	Trp	Glu	Pro	
		195					200					205				
Gly	Ala	Val	Pro	Pro	Ser	Thr	Glu	His	Leu	Asp	Pro	Leu	Leu	Lys	Asp	
	210					215					220					
Ala	Pro	Lys	His	Leu	Pro	Ser	Cys	Pro	Asp	Lys	Gly	Phe	Thr	Asp	Lys	
225					230					235					240	
Leu	Phe	Tyr	Ile	Tyr	Thr	Ser	Gly	Thr	Thr	Gly	Leu	Pro	Lys	Ala	Ala	
				245					250					255		
Ile	Val	Val	His	Ser	Arg	Tyr	Tyr	Arg	Met	Ala	Ala	Leu	Val	Tyr	Tyr	
			260					265					270			
Gly	Phe	Arg	Met	Arg	Pro	Asn	Asp	Ile	Val	Tyr	Asp	Cys	Leu	Pro	Leu	
		275					280					285				
Tyr	His	Ser	Ala	Gly	Asn	Ile	Val	Gly	Ile	Gly	Gln	Cys	Leu	Leu	His	
	290					295					300					
Gly	Met	Thr	Val	Val	Ile	Arg	Lys	Lys	Phe	Ser	Ala	Ser	Arg	Phe	Trp	
305					310					315					320	
Asp	Asp	Cys	Ile	Lys	Tyr	Asn	Cys	Thr	Ile	Val	Gln	Tyr	Ile	Gly	Glu	
				325					330					335		
Leu	Cys	Arg	Tyr	Leu	Leu	Asn	Gln	Pro	Pro	Arg	Glu	Ala	Glu	Asn	Gln	
			340					345					350			
His	Gln	Val	Arg	Met	Ala	Leu	Gly	Asn	Ala	Ser	Gly	Ser	Pro	Ser	Gly	
		355					360					365				
Pro	Thr	Phe	Pro	Ala	Ala	Ser	Thr	Tyr	Pro	Arg	Trp	Leu	Ser	Ser	Thr	
	370					375					380					
Gly	Pro	Glu	Cys	Asn	Cys	Ser	Leu	Gly	Asn	Phe	Asp	Ser	Gln	Val	Gly	
385					390					395					400	
Ala	Cys	Gly	Phe	Asn	Ser	Arg	Ile	Leu	Ser	Phe	Val	Tyr	Pro	Ile	Arg	
				405					410					415		
Leu	Val	Arg	Val	Asn	Glu	Asp	Thr	Met	Glu	Leu	Ile	Arg	Gly	Pro	Asp	
			420					425				430				
Gly	Val	Cys	Ile	Pro	Cys	Gln	Pro	Gly	Glu	Pro	Gly	Gln	Leu	Val	Gly	
		435					440					445				
Arg	Ile	Ile	Gln	Lys	Asp	Pro	Leu	Arg	Arg	Phe	Asp	Gly	Tyr	Leu	Asn	
	450					455					460					
Gln	Gly	Ala	Asn	Asn	Lys	Lys	Ile	Ala	Lys	Asp	Val	Phe	Lys	Lys	Gly	
465					470					475						

545		550		555		560									
Leu	Glu	Arg	Phe	Ala	Gln	Val	Leu	Glu	Lys	Glu	Leu	Pro	Leu	Tyr	Ala
			565						570					575	
Arg	Pro	Ile	Phe	Leu	Arg	Leu	Leu	Pro	Glu	Leu	His	Lys	Thr	Gly	Thr
		580						585					590		
Tyr	Lys	Phe	Gln	Lys	Thr	Glu	Leu	Arg	Lys	Glu	Ala	Phe	Asp	Pro	Ala
	595						600					605			
Ile	Val	Lys	Thr	Arg	Cys	Ser	Ile								
	610					615									

&lt;210&gt; 5041

&lt;211&gt; 2461

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5041

```

ctcgcgatag cgaccgggag cagggcgcgagg ggcgggaccc aggtccgagg cgaggaagcc
60
ggaagccagg cgcgggggagc ctcccccttc gactgcagcc tcgctccgtg cttctctgcgc
120
gcctgggatac ccggagcctg cctagggttct gtgcgctccc gccaggccg gtgcccgcgcg
180
ccgcctgcg cccagggcag gtcccaggcc tccggctgct cccggccgaa ggtggggaca
240
ggcagtggca ggcaccacta gcgagggcgt ttgggaaccc agggtgacca cggcgagcc
300
atggggaccg cgcttggtga ccatgaggac atgacggcca cccggctgct ctgggacgac
360
cccgagtgcg agatcgagcg tcctgagcgc ctgaccgag cctggatcg cctgcggcag
420
cgcggcctgg aacagaggtg tctgcggttg tcagcccgcg aggcctcgga agaggagctg
480
ggcctgggtgc acagcccaga gtatgtatcc ctgggtcaggg agaccagggt cctaggcaag
540
gaggagctgc aggcgctgtc cggacagttc gacgccatct acttcaccc gagtaccttt
600
cactgcgcgc ggctggccgc aggggctgga ctgcagctgg tggacgctgt gctcactgga
660
gctgtgcaaa atgggcttgc cctgggtgagg cctcccgggc accatggcca gagggcggct
720
gccaacgggt tctgcgtgtt caacaacgtg gccatagcag ctgcacatgc caagcagaaa
780
cacgggctac acaggatcct cgtcgtggac tgggatgtgc accatggcca ggggatccag
840
tatctctttg aggatgaccc cagcgtcctt tactttctct ggacccgcta tgagcatggg
900
cgcttcttgc ctttctctgc agagtcagat gcagacgcag tggggcgggg acagggcctc
960
ggcttctactg tcaacctgcc ctggaaccag gttgggatgg gaaacgctga ctacgtggct
1020
gccttctctgc acctgctgct cccactggcc tttagagttt accctgagct ggtgctggtc
1080
tcggcaggat ttgactcagc catcggggac cctgaggggc aaatgcaggc cacgccagag
1140

```

tgcttcgccc acctcacaca gctgctgcag gtgctggccg gcggccgggt ctgtgccgtg  
 1200  
 ctggaggcgc gctaccacct ggagtcactg gcggagtcag tgtgcatgac agtacagacg  
 1260  
 ctgctgggtg acccgcccc acccctgtca gggccaatgg cgccatgtca gaggtgcgag  
 1320  
 gggagtgcgc tagagtccat ccagagtgcc cgtgctgccc agggcccgca ctggaagagc  
 1380  
 ctccagcagc aagatgtgac cgctgtgccg atgagcccca gcagccactc cccagagggg  
 1440  
 aggcctccac ctctgctgcc tgggggtcca gtgtgtaagg cagctgcatc tgcaccgagc  
 1500  
 tccctcctgg accagccgtg cctctgcccc gcaccctctg tccgcaccgc tgttgccctg  
 1560  
 acaacgccgg atatcacatt ggttctgccc cctgacgtca tccaacagga agcgtcagcc  
 1620  
 ctgagggagg agacagaagc ctggggcagg ccacacgagt ccctggcccc ggaggaggcc  
 1680  
 ctcaactgcac ttgggaagct cctgtacctc ttagatggga tgctggatgg gcaggtgaac  
 1740  
 agtggatatag cagccactcc agcctctgct gcagcagcca ccctggatgt ggctgttcgg  
 1800  
 agaggcctgt cccacggagc ccagaggctg ctgtgcgtgg ccctgggaca gctggaccgg  
 1860  
 cctccagacc tcgcccata gggaggagt ctgtggctga acatcagggg caaggaggcg  
 1920  
 gctgccctat ccattgtcca tgtctccacg ccactgccag tgatgaccgg tggtttctctg  
 1980  
 agctgcatct tgggcttggg gctgccccctg gcctatggct tccagcctga cctggtgctg  
 2040  
 gtggcgctgg ggccctggcca tggcctgcag ggccccacg ctgcactcct ggctgcaatg  
 2100  
 cttcgggggc tggcaggggg ccgagtccctg gccctcctgg aggagaactc cacaccccag  
 2160  
 ctagcagggg tcctggcccc ggtgctgaat ggagaggcac ctctagcct aggccttcc  
 2220  
 tctgtggcct cccagagga cgtccaggcc ctgatgtacc tgagagggca gctggagcct  
 2280  
 cagtgaaga tgttgacgtg ccattctcac ctgggtggctt gaaatcggcc aagggtgggag  
 2340  
 catttacacc gcagaaatga caccgcacgc cagcgccccg cgcccgcat ccggacccca  
 2400  
 agcccacggc tccctcgact ctggggcacg gaaccccgcc cactcccaat ccctggcgcg  
 2460  
 c  
 2461

&lt;210&gt; 5042

&lt;211&gt; 686

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5042

Arg Gly Arg Leu Gly Thr Gln Gly Asp His Gly Ala Ala Met Gly Thr

1	5	10	15
Ala Leu Val Tyr	His Glu Asp Met Thr	Ala Thr Arg Leu	Leu Trp Asp
20	25	30	
Asp Pro Glu Cys	Glu Ile Glu Arg Pro	Glu Arg Leu Thr	Ala Ala Leu
35	40	45	
Asp Arg Leu Arg	Gln Arg Gly Leu Glu	Gln Arg Cys Leu	Arg Leu Ser
50	55	60	
Ala Arg Glu Ala	Ser Glu Glu Leu Gly	Leu Val His Ser	Pro Glu
65	70	75	80
Tyr Val Ser Leu	Val Arg Glu Thr Gln	Val Leu Gly Lys	Glu Glu Leu
85	90	95	
Gln Ala Leu Ser	Gly Gln Phe Asp Ala	Ile Tyr Phe His	Pro Ser Thr
100	105	110	
Phe His Cys Ala	Arg Leu Ala Ala Gly	Ala Gly Leu Gln	Leu Val Asp
115	120	125	
Ala Val Leu Thr	Gly Ala Val Gln Asn	Gly Leu Ala Leu	Val Arg Pro
130	135	140	
Pro Gly His His	Gly Gln Arg Ala Ala	Ala Asn Gly Phe	Cys Val Phe
145	150	155	160
Asn Asn Val Ala	Ile Ala Ala Ala His	Ala Lys Gln Lys	His Gly Leu
165	170	175	
His Arg Ile Leu	Val Val Asp Trp Asp	Val His His Gly	Gln Gly Ile
180	185	190	
Gln Tyr Leu Phe	Glu Asp Asp Pro Ser	Val Leu Tyr Phe	Ser Trp His
195	200	205	
Arg Tyr Glu His	Gly Arg Phe Trp Pro	Phe Leu Arg Glu	Ser Asp Ala
210	215	220	
Asp Ala Val Gly	Arg Gly Gln Gly Leu	Gly Phe Thr Val	Asn Leu Pro
225	230	235	240
Trp Asn Gln Val	Gly Met Gly Asn Ala	Asp Tyr Val Ala	Ala Phe Leu
245	250	255	
His Leu Leu Leu	Pro Leu Ala Phe Glu	Phe Asp Pro Glu	Leu Val Leu
260	265	270	
Val Ser Ala Gly	Phe Asp Ser Ala Ile	Gly Asp Pro Glu	Gly Gln Met
275	280	285	
Gln Ala Thr Pro	Glu Cys Phe Ala His	Leu Thr Gln Leu	Leu Gln Val
290	295	300	
Leu Ala Gly Gly	Arg Val Cys Ala Val	Leu Glu Gly Gly	Tyr His Leu
305	310	315	320
Glu Ser Leu Ala	Glu Ser Val Cys Met	Thr Val Gln Thr	Leu Leu Gly
325	330	335	
Asp Pro Ala Pro	Pro Leu Ser Gly Pro	Met Ala Pro Cys	Gln Arg Cys
340	345	350	
Glu Gly Ser Ala	Leu Glu Ser Ile Gln	Ser Ala Arg Ala	Ala Gln Ala
355	360	365	
Pro His Trp Lys	Ser Leu Gln Gln Gln	Asp Val Thr Ala	Val Pro Met
370	375	380	
Ser Pro Ser Ser	His Ser Pro Glu Gly	Arg Pro Pro Pro	Leu Leu Pro
385	390	395	400
Gly Gly Pro Val	Cys Lys Ala Ala Ala	Ser Ala Pro Ser	Ser Leu Leu
405	410	415	
Asp Gln Pro Cys	Leu Cys Pro Ala Pro	Ser Val Arg Thr	Ala Val Ala
420	425	430	
Leu Thr Thr Pro	Asp Ile Thr Leu Val	Leu Pro Pro Asp	Val Ile Gln

```
<210> 5043
<211> 1824
<212> DNA
<213> Homo sapiens
```

4225

accagaagg tagagctgct ggagaagttt cgggacaact gtttggcaat tttggagagc  
540  
aagggccttg atccagcttt aggcagtgag accctggcat cacgacaaga atccactact  
600  
gatcacatgg actctatggt gctgttagaa actttgcaag aggagctgaa gctttttaac  
660  
gaaacagcca aaaagcagat ggaggagtta caggccttaa aggtaaagct ggagatgaaa  
720  
gaggaaagag tccgattcct agaacagcaa accttatgta acaatcaagt aaatgattta  
780  
acaacagccc ttaaggaaat ggagcagcta ttagaaatgt aagaagaagc aagtggccag  
840  
atggctccct cttgggcata aaatctcaga ggaagctact taggacatca tcttggccat  
900  
gatcttcttg gactcaccat ctccagaatg aaaacaattt ctacagtaga cttaaggaca  
960  
gtttatgctg aaatggcaat tcctcattta agcaagtttt cccaaccttc aggttggtca  
1020  
gccctcctga gcctcacagg tggataattg aggcctacaa gagaggggag cctaggagct  
1080  
tggattgacc ttctagtcaa ccacctgact tcagcacacc attacaatcg ggagactaaa  
1140  
ccaacaacca gaggatctaa aatgtcacat tcagattttc aggaagaaaa tcttcattac  
1200  
agtggagcac aaatgttcca tacaagacat cattgaggag ccatgctgtc cccttctaac  
1260  
ctgaaacaca ttctttccca tcctgggttg gcttctgtac ctcttatta atttatgaac  
1320  
ctgaagtgtc ttgaagtgtt ttgggcttaa taaatggggt gaaagtatag gtagcagtaa  
1380  
cacctacatg aaacaatata ccttggatct tttaatctaa attacttttc ttttttaagt  
1440  
ctacttttaa aataaatact tctgtaaata ttctgactgt aacattgaga aatgaaaata  
1500  
gccttttaac ctagatatgt cagttgatca ttattgaact aatttagtta acaagtccaa  
1560  
gatattctga cttaatctag aatatttttc tgctactctt taagagtcct gtggctagtc  
1620  
cctctgtctc ccaagagcat tggctagtct cctgagggtg ttgccattt gtagcagtgg  
1680  
tttcaccagg tctgtggcca cttgctgccc atgttttccc tgcactccag cctgggtgac  
1740  
aagagcaaga ctccatctct aaataaataa ataaataaat aaataaataa ataaataaat  
1800  
aaaatagttg aaatggcaaa cttt  
1824

&lt;210&gt; 5044

&lt;211&gt; 273

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5044

Ala Gly Gly Thr Thr Val Ala Ala Gly Asn Leu Leu Asn Glu Ser Glu

1				5						10					15				
Lys	Asp	Cys	Gly	Gln	Asp	Arg	Arg	Ala	Pro	Gly	Val	Gln	Pro	Cys	Arg				
			20					25					30						
Leu	Val	Thr	Met	Thr	Ser	Val	Val	Lys	Thr	Val	Tyr	Ser	Leu	Gln	Pro				
			35				40					45							
Pro	Ser	Ala	Leu	Ser	Gly	Gly	Gln	Pro	Ala	Asp	Thr	Gln	Thr	Arg	Ala				
		50			55					60									
Thr	Ser	Lys	Ser	Leu	Leu	Pro	Val	Arg	Ser	Lys	Glu	Val	Asp	Val	Ser				
65				70					75					80					
Lys	Gln	Leu	His	Ser	Gly	Gly	Pro	Glu	Asn	Asp	Val	Thr	Lys	Ile	Thr				
			85				90						95						
Lys	Leu	Arg	Arg	Glu	Asn	Gly	Gln	Met	Lys	Ala	Thr	Asp	Thr	Ala	Thr				
			100				105						110						
Arg	Arg	Asn	Val	Arg	Lys	Gly	Tyr	Lys	Pro	Leu	Ser	Lys	Gln	Lys	Ser				
		115					120					125							
Glu	Glu	Glu	Leu	Lys	Asp	Lys	Asn	Gln	Leu	Leu	Glu	Ala	Val	Asn	Lys				
		130				135					140								
Gln	Leu	His	Gln	Lys	Leu	Thr	Glu	Thr	Gln	Gly	Glu	Leu	Lys	Asp	Leu				
145				150					155					160					
Thr	Gln	Lys	Val	Glu	Leu	Leu	Glu	Lys	Phe	Arg	Asp	Asn	Cys	Leu	Ala				
			165				170						175						
Ile	Leu	Glu	Ser	Lys	Gly	Leu	Asp	Pro	Ala	Leu	Gly	Ser	Glu	Thr	Leu				
		180					185					190							
Ala	Ser	Arg	Gln	Glu	Ser	Thr	Thr	Asp	His	Met	Asp	Ser	Met	Leu	Leu				
		195				200						205							
Leu	Glu	Thr	Leu	Gln	Glu	Glu	Leu	Lys	Leu	Phe	Asn	Glu	Thr	Ala	Lys				
		210				215					220								
Lys	Gln	Met	Glu	Glu	Leu	Gln	Ala	Leu	Lys	Val	Lys	Leu	Glu	Met	Lys				
225				230					235					240					
Glu	Glu	Arg	Val	Arg	Phe	Leu	Glu	Gln	Gln	Thr	Leu	Cys	Asn	Asn	Gln				
			245				250						255						
Val	Asn	Asp	Leu	Thr	Thr	Ala	Leu	Lys	Glu	Met	Glu	Gln	Leu	Leu	Glu				
			260				265						270						

Met

&lt;210&gt; 5045

&lt;211&gt; 462

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5045

cataaatggg acatttactt cacaagctgt tttcccaggg tcttctctctg ggtatgtctg  
60  
aaatataaaa atctggactg ggattgaaga ttgtgtttac aaatgctttt gaataggatt  
120  
tctctgcag ttgttacgta gcttttcaga aacacacaaa ctacaaataa tgaacaacat  
180  
ctgcaatgat tcggcagggt ggcagcatcc acgctctcca cccaaaccct ggtgggattt  
240  
ggagaggccg ctggtgggca gaggttggcc ctaagcatgg cagcctccgg cttactgcac  
300  
ccagcctgtg gggcggtca gtagcccggtg acatggtggc ctgttgtctc ttctcttgtt  
360

ctagtaagca ctatcctttg tactccctca acgtggcctc catgtggttg aagctagggg  
 420  
 gactctacat gggcctggaa cacaagccg ctagggatga aa  
 462

<210> 5046  
 <211> 92  
 <212> PRT  
 <213> Homo sapiens

<400> 5046  
 Met Ile Arg Gln Gly Gly Ser Ile His Ala Leu His Pro Asn Pro Gly  
 1 5 10 15  
 Gly Ile Trp Arg Gly Arg Trp Trp Ala Glu Val Gly Pro Lys His Gly  
 20 25 30  
 Ser Leu Arg Leu Thr Ala Pro Ser Leu Trp Gly Gly Ser Val Ala Arg  
 35 40 45  
 Asp Met Val Ala Cys Cys Leu Phe Ser Cys Ser Ser Lys His Tyr Pro  
 50 55 60  
 Leu Tyr Ser Leu Asn Val Ala Ser Met Trp Leu Lys Leu Gly Arg Leu  
 65 70 75 80  
 Tyr Met Gly Leu Glu His Lys Ala Ala Arg Asp Glu  
 85 90

<210> 5047  
 <211> 3380  
 <212> DNA  
 <213> Homo sapiens

<400> 5047  
 ggggtcgcggt cctcggagcg cttctgcagc ccgggcaaag gccggnngct gcgggctctg  
 60  
 cagcccttcc aggtggggga cttgctgttc tcctgcccgg cctatgccta cgtgctcacg  
 120  
 gtcaacgagc ggggcaacca ctgcgagtag tgcctcacca ggaaagaagg attgtccaaa  
 180  
 tgtggaagat gcaagcaggc attttactgc aatgtggagt gtcagaaaga agattggccc  
 240  
 atgcacaagc tggaatgttc tcccatggtt gtttttgggg aaaactggaa tccctcggag  
 300  
 actgtaagac taacagcaag gattctggcc aaacagaaaa tccaccaga gagaacacct  
 360  
 tcggaaaaat tgtagctgt gaaggagttt gaatcacatc tggataagtt agacaatgag  
 420  
 aagaaggatt tgattcagag tgacatagct gctctccatc acttttactc caagcatctc  
 480  
 gaattccctg acaatgatag cctcgtagta ctctttgcac aggttaactg taatggcttc  
 540  
 acaattgaag atgaagaact ttctcatttg ggatcagcga tatttcctga tgttgcatg  
 600  
 atgaatcata gctgttgccc caatgtcatt gtgacctaca aaggggacct ggcagaagtc  
 660  
 agagctgtac aggaaatcaa gccgggagag gaggttttta ccagctatat tgatctcctg  
 720



tacccaacgg aagatagaaa tgaccgggta agagattctt atttctttac ctgtgagtgc  
780  
caggagtgtta ccaccaagga caaggataag gccaaagggtg aaatccggaa gctcagcgat  
840  
cccccaaagg cagaagccat ccgagacatg gtcagatatg cacgcaacgt cattgaagag  
900  
ttccggagggt ccaagcacta taaatcccct agtgagctgc tggagatctg cgagctcagc  
960  
caggagaaga tgagctctgt gtttgaggac agtaacgtgt acatgttgca catgatgtac  
1020  
caggccatgg gtgtctgctt gtacatgcag gactgggaag gagccctgca atatggacag  
1080  
aaaatcatta agccctacag taagcactat cctttgtact ccctcaacgt ggccctccatg  
1140  
tggttgaagc tagggagact ctacatgggc ctggaacaca aagccgcagg ggagaaagcc  
1200  
ctgaagaagg ccattgcaat catggaagta gctcacggca aagatcatcc atatatttct  
1260  
gagatcaaac aggaaattga aagccactga aactatgcag catttcagtt ttcattttaa  
1320  
cacttagttc agaaacctta aaggatttga atatttcaaa ttgcacacgt cactccagca  
1380  
tctctgtaaa ataattggaa tgaaaatact tcttgcaactt aaacactgca catgccgtac  
1440  
tttgagggtta gtctgaatct tgaactttta taccaaatta attttgaatg cttttgtttc  
1500  
ctaagagata atggcatggg ttcatatgtt atactttgga cagacagagt tttaaaaatg  
1560  
gaattatttt ttctttcatg cctcttgtaa tgttctgaac aaacttgaat gatgaaagta  
1620  
ttaaagagat atcagtattt gaggtttgta ttttcttctg tctctgggga ggatttctca  
1680  
gtgggtgggtg gagcccgatc ttggagtga agtgacacct gctgtccata attcagcaag  
1740  
ctcaagtctt ctccatggga ctggggctcg gcagcctctt tattctgcag ttgctcttgt  
1800  
ggggctgtgc ctgtggagga agaaaatggg aagaaagaga aaaagggtaca caaaggaaag  
1860  
aaaactatca tctatctgtg gtggaggaac agtccagtga cccaagtgcc ctccagcagg  
1920  
cgaggttttg aatctgttct ctgggtgctg gtattccttc agtgtgtaaa ggtgcttagt  
1980  
gcgtgctttg ctttcttggc ttttctgtcc ccattctgtc gaaagcagac ttgccatctc  
2040  
tcattctgtt gattgttctg tgcagtactc tcctttttgg aaaaactcca gggatatgctt  
2100  
gggaaggaaa aaaatttttt tccttaccaa ccaacgctgt gttgttgagt aaacactgat  
2160  
ctctaccac acagacaaca ggaatccagc tttctgcagc cccacagcct agacagcagc  
2220  
aacctgggga gttgtttgtt agcaaccatt gcacagaagg acgcagcaca cgttcctgag  
2280  
tgcaggggtg ttactcttag aaaagcgtct ttagtcgaa agagaggaac ttccccactg  
2340

gttaataagt aaagcctggt gaaattttaca tgtcaattac ctttcatagt catgggtcga  
 2400  
 aaacagctag aacagctgta aatctggtac attttccttc cctcctcatc tacacgcacc  
 2460  
 cacatcttca cacacactca tgccccctctt tcacacgcag tttgctgcac acagtgggat  
 2520  
 ttagcagata gaatgcattc tcttgtcctg tgtagtccaa taagacattt actgaacacc  
 2580  
 tgggtactatc tatgctaaat gctctgaata gctctctagg tgcaaagaga agagtaaggc  
 2640  
 atgggtcccag atcagtggaa cttagggtttt aagaatgttc atttactata cattctgtga  
 2700  
 cgaagcctaa aataaaactta gcctaccatc tctatagggt ttataaaatt tgcaaaagta  
 2760  
 atcctttctc agtaaattca agtaatggaa atgtatatga aaaaagtaaa cttctttgtt  
 2820  
 cttcaccagt cccactgcgt ggagctaact gccataaaca gtttgcctta tatgggtccca  
 2880  
 ggtttttcca ttctgggatg atgatgtagc tatataaata gatttagaag aacaaagaca  
 2940  
 ggatggtact gacataggat tttgtaacgt gcttctccaa acgaacaaaa tggatctctt  
 3000  
 tgcatttcag cacttacaga tttgcctcat tctattttaga ggcagaatat tgcattggat  
 3060  
 gcatgtcatc atggactcgg tacttctatt tatggacagg aggttttttt tcccagtttg  
 3120  
 ctgctattac aaacaatgcc acaatgaatg atctgaaaca taaaactttg cgttgtgtgg  
 3180  
 tagcattttg gggaatagat tcctggaagt gcaatttcaa gatccaatag tgggaatatt  
 3240  
 tttaaaattt gaataaatat agccacattt ctttttgtaa aaaaaaaaaa aaaactgcat  
 3300  
 cagatacaaa taagatagat ataatagtat ttgctttcct ctccctcata acgttgtatt  
 3360  
 atcattaaaa tgttttttggc  
 3380

&lt;210&gt; 5048

&lt;211&gt; 429

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5048

Gly	Ser	Arg	Ser	Ser	Glu	Arg	Phe	Cys	Ser	Pro	Gly	Lys	Gly	Arg	Xaa
1				5					10					15	
Leu	Arg	Ala	Leu	Gln	Pro	Phe	Gln	Val	Gly	Asp	Leu	Leu	Phe	Ser	Cys
		20						25					30		
Pro	Ala	Tyr	Ala	Tyr	Val	Leu	Thr	Val	Asn	Glu	Arg	Gly	Asn	His	Cys
		35					40					45			
Glu	Tyr	Cys	Phe	Thr	Arg	Lys	Glu	Gly	Leu	Ser	Lys	Cys	Gly	Arg	Cys
	50					55					60				
Lys	Gln	Ala	Phe	Tyr	Cys	Asn	Val	Glu	Cys	Gln	Lys	Glu	Asp	Trp	Pro
65					70					75				80	
Met	His	Lys	Leu	Glu	Cys	Ser	Pro	Met	Val	Val	Phe	Gly	Glu	Asn	Trp

```
<210> 5049
<211> 2422
<212> DNA
<213> Homo sapiens
```

```
<400> 5049
nagatcttct cgcagcgcac ctcccccttc atcgattaca cctatgacag cgacatactg
60
aagggcaact tctcaatccg tacagccaag atgcagcagc atgtgtgtga aaccatcatc
120
..
```

cgcatcttta aaagacatgg agctgttcag ttgtgtactc cactactgct tccccgaaac  
180  
agacaaatat atgagcacia cgaatctgcc ctattcatgg accacagcgg gatgctggtg  
240  
atgcttcctt ttgacctgcg gatccctttt gcaagatatg tggcaagaaa taatatattg  
300  
aatttaaaac gatactgcat agaactgttg ttcaggccgc gcaagttaga tcgatttcat  
360  
cccaaagaac ttctggagtg tgcatttgat attgtcactt ctaccaccaa cagctttctg  
420  
cccactgctg aaattatcta cactatctat gaaatcatcc aagagtttcc agcacttcag  
480  
gaaagaaatt acagtattta tttgaacct accatgttat tgaaagcaat actcttacac  
540  
tgtgggatcc cagaagataa actcagtcaa gtctacatta ttctgtatga tgctgtgaca  
600  
gagaagctga cgaggagaga agtggaagct aaattttgta atctgtctgt gtcttcta  
660  
agtntctgtg cgactctaca angtttattg aacagaaggg agattnntgc aagatcttat  
720  
gccacaatn naaattcatt aataaaacag aaaacaggta ttgcacagtt ggtgaagtat  
780  
ggcttaaaaag acctagagga ggttggttga ctggtgaaga aactcggcat caagttacag  
840  
gtcttgatca atttgggctt ggtttacaag gtgcagcagc acaatggaat catcttccag  
900  
tttgtggctt tcatcaaacg aaggcaaagg gctgtacctg aaatcctcgc agctggaggc  
960  
agatatgacc tgctgattcc ccagtttaga gggccacaag ctctggggcc agttcccact  
1020  
gccattgggg tcagcatagc tatagacaag atatctgctg ctgtcctcaa catggaggaa  
1080  
tctgttacia taagctcttg tgacctctg gttgtaagtg ttggtcagat gtctatgtcc  
1140  
agggccatca acctaaccca gaaactctgg acagcaggca tcacagcaga aatcatgtac  
1200  
gactgggtcac agtcccaaga ggaattacia gagtactgca gacatcatga aatcacctat  
1260  
gtggcccttg tctcgataa agaaggaagc catgtcaagg ttaagtcttt cgagaaggaa  
1320  
aggcagacag agaagcgtgt gctggagact gaacttgttg accatgtact gcagaaactg  
1380  
aggactaaag tcatgatga aaggaatggc agagaagctt ccgataatct tgcagtgcaa  
1440  
aatctgaagg ggtcattttc taatgcttca ggtttggttg aaatccatgg agcaacagtg  
1500  
gttcccattg tgagtgtgct agccccggag aagctgtcag ccagcactag gaggcgctat  
1560  
gaaactcagg taaaaactcg acttcagacc tcccttgcca acttacatca gaaaagcagt  
1620  
gaaattgaaa ttctggctgt ggatctacce aaagaaacia tattacagtt tttatcatta  
1680  
gagtgggatg ctgatgaaca ggcatttaac acaactgtga agcagctgct gtcacgcctg  
1740

ccaaagcaaa gatacctcaa attagtctgt gatgaaattt ataacatcaa agtagaaaaa  
 1800  
 aaggtgtctg tgctatttct gtacagctat agagatgact actacagaat cttatttttaa  
 1860  
 ccctaaagaa ctgtcgtaa cctcattcaa acagacagag gcttatactg gaataatgga  
 1920  
 atgttgtaca ttcatacataa tttaaaatta aattctaaga agaggctggg tgcagtggct  
 1980  
 cacaccttta atcccagcac tttgggaagc caaggcagga agactgcttg aaaccaggag  
 2040  
 tttgagacca gcctgagcaa caaagcaaga ccccatctct ataaaaacta aaaaaattag  
 2100  
 ttgggcatgg tggcacatgc ctgtagtccc agctactcca gaggctgaga tggatcatct  
 2160  
 gagcctcagg aggttgaggc tgcagtgagc tgtgactgcg ccactgcact ccagtctggg  
 2220  
 acaacagagc aagaccctgt cttaaaaaaa aaaagaaaaa aaaaattttt ttctaagaag  
 2280  
 ctgtcctaca aagttgagct ttgttagttt ttcattgtgta atatattata aatttatctt  
 2340  
 ttgggatata ataaatgctt tcatataaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2400  
 aaaaaaaaaa aaaaaaaaaa aa  
 2422

&lt;210&gt; 5050

&lt;211&gt; 619

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5050

Xaa	Ile	Phe	Ser	Gln	Arg	Ile	Ser	Pro	Ser	Ile	Asp	Tyr	Thr	Tyr	Asp
1				5				10						15	
Ser	Asp	Ile	Leu	Lys	Gly	Asn	Phe	Ser	Ile	Arg	Thr	Ala	Lys	Met	Gln
			20					25					30		
Gln	His	Val	Cys	Glu	Thr	Ile	Ile	Arg	Ile	Phe	Lys	Arg	His	Gly	Ala
		35					40					45			
Val	Gln	Leu	Cys	Thr	Pro	Leu	Leu	Leu	Pro	Arg	Asn	Arg	Gln	Ile	Tyr
	50					55				60					
Glu	His	Asn	Glu	Ser	Ala	Leu	Phe	Met	Asp	His	Ser	Gly	Met	Leu	Val
65					70					75				80	
Met	Leu	Pro	Phe	Asp	Leu	Arg	Ile	Pro	Phe	Ala	Arg	Tyr	Val	Ala	Arg
				85					90					95	
Asn	Asn	Ile	Leu	Asn	Leu	Lys	Arg	Tyr	Cys	Ile	Glu	Arg	Val	Phe	Arg
			100					105					110		
Pro	Arg	Lys	Leu	Asp	Arg	Phe	His	Pro	Lys	Glu	Leu	Leu	Glu	Cys	Ala
		115				120						125			
Phe	Asp	Ile	Val	Thr	Ser	Thr	Thr	Asn	Ser	Phe	Leu	Pro	Thr	Ala	Glu
	130					135					140				
Ile	Ile	Tyr	Thr	Ile	Tyr	Glu	Ile	Ile	Gln	Glu	Phe	Pro	Ala	Leu	Gln
145				150					155					160	
Glu	Arg	Asn	Tyr	Ser	Ile	Tyr	Leu	Asn	His	Thr	Met	Leu	Leu	Lys	Ala
			165					170						175	
Ile	Leu	Leu	His	Cys	Gly	Ile	Pro	Glu	Asp	Lys	Leu	Ser	Gln	Val	Tyr

				180				185					190				
Ile	Ile	Leu	Tyr	Asp	Ala	Val	Thr	Glu	Lys	Leu	Thr	Arg	Arg	Glu	Val		
		195					200					205					
Glu	Ala	Lys	Phe	Cys	Asn	Leu	Ser	Val	Ser	Ser	Asn	Ser	Xaa	Val	Ser		
	210					215					220						
Thr	Leu	Gln	Xaa	Leu	Leu	Asn	Arg	Arg	Glu	Ile	Xaa	Ala	Arg	Ser	Tyr		
225					230					235					240		
Ala	Asn	Asn	Xaa	Asn	Ser	Leu	Ile	Lys	Gln	Lys	Thr	Gly	Ile	Ala	Gln		
				245					250					255			
Leu	Val	Lys	Tyr	Gly	Leu	Lys	Asp	Leu	Glu	Glu	Val	Val	Gly	Leu	Leu		
			260					265					270				
Lys	Lys	Leu	Gly	Ile	Lys	Leu	Gln	Val	Leu	Ile	Asn	Leu	Gly	Leu	Val		
	275						280					285					
Tyr	Lys	Val	Gln	Gln	His	Asn	Gly	Ile	Ile	Phe	Gln	Phe	Val	Ala	Phe		
	290					295					300						
Ile	Lys	Arg	Arg	Gln	Arg	Ala	Val	Pro	Glu	Ile	Leu	Ala	Ala	Gly	Gly		
305					310					315					320		
Arg	Tyr	Asp	Leu	Leu	Ile	Pro	Gln	Phe	Arg	Gly	Pro	Gln	Ala	Leu	Gly		
			325					330						335			
Pro	Val	Pro	Thr	Ala	Ile	Gly	Val	Ser	Ile	Ala	Ile	Asp	Lys	Ile	Ser		
			340					345					350				
Ala	Ala	Val	Leu	Asn	Met	Glu	Glu	Ser	Val	Thr	Ile	Ser	Ser	Cys	Asp		
		355					360					365					
Leu	Leu	Val	Val	Ser	Val	Gly	Gln	Met	Ser	Met	Ser	Arg	Ala	Ile	Asn		
	370					375					380						
Leu	Thr	Gln	Lys	Leu	Trp	Thr	Ala	Gly	Ile	Thr	Ala	Glu	Ile	Met	Tyr		
385					390					395					400		
Asp	Trp	Ser	Gln	Ser	Gln	Glu	Glu	Leu	Gln	Glu	Tyr	Cys	Arg	His	His		
			405					410						415			
Glu	Ile	Thr	Tyr	Val	Ala	Leu	Val	Ser	Asp	Lys	Glu	Gly	Ser	His	Val		
			420					425					430				
Lys	Val	Lys	Ser	Phe	Glu	Lys	Glu	Arg	Gln	Thr	Glu	Lys	Arg	Val	Leu		
	435						440					445					
Glu	Thr	Glu	Leu	Val	Asp	His	Val	Leu	Gln	Lys	Leu	Arg	Thr	Lys	Val		
	450					455					460						
Thr	Asp	Glu	Arg	Asn	Gly	Arg	Glu	Ala	Ser	Asp	Asn	Leu	Ala	Val	Gln		
465					470					475					480		
Asn	Leu	Lys	Gly	Ser	Phe	Ser	Asn	Ala	Ser	Gly	Leu	Phe	Glu	Ile	His		
			485					490						495			
Gly	Ala	Thr															

610

615

<210> 5051  
<211> 4125  
<212> DNA  
<213> Homo sapiens

<400> 5051  
ttttttttttc tattattctt ttactatctt ttctattacc attttttcta gtaccatttt  
60  
ttctattatt cttttactat aattgtatat aatatggcag ctgcttgcca catgtactat  
120  
gtggagagat gtaccaccct gcatcagctt ttaccctaca gaaggaaatc agcgttccat  
180  
tatattttat tggtatcaac agtttaggaa tacatagctt tgcttttgcc tttttctttc  
240  
cttcccccttg tttccccctcg cctcagagaa aagaaggaaa aaaaaattca tctttcctac  
300  
ccccctcttt ttggatgata ggacttgaag acaatctgaa ataccacata aactcacttc  
360  
cagatgtttt ttgtttcata tgcaattgaa ttgggctcag actgtgtttt taagctgtat  
420  
ggtaaaaaata tcaactgtctt ctagggcctt attggggggc agggagagac gtgacacttt  
480  
gtcagaaggg attgagtctg ctaacttaaa ctttccttga ttcaggaata caaagtctcc  
540  
agctgtgaac agagactcat cagtgaata gagtacaggc tagaaaggtc tcctgtggat  
600  
gaatcagggtg atgaattcac gtatggagat gtgcctgtgg aaaacggaat ggcaccattc  
660  
tttgagatga agctgaaaca ttacaagatc tttgagggaa tgccagtaac tttcacatgt  
720  
agagtggctg gaaatccaaa gccaaagatc tattggttta aagatgggaa gcagatctct  
780  
ccaaagagtg atcactacac cattcaaaga gatctcgatg ggacctgctc cctccatacc  
840  
acagcctcca ccctagatga tgatgggaat tatacaatta tggctgcaaa ccctcagggc  
900  
cgcattcagtt gtactggacg gctaattgga caggctgtca accaaagagg tcgaagtccc  
960  
cggctctccct caggccatcc tcatgtcaga aggcctcgtt ctagatcaag ggacagtgga  
1020  
gacgaaaatg aaccaattca ggagcgattc ttcagacctc acttcttgca ggctcctgga  
1080  
gatctgactg ttcaagaagg aaaactctgc agaattggact gcaaagtcag tgggttacca  
1140  
accccagatc taagctggca actagatgga aagcccgtac gccctgacag tgctcacaag  
1200  
atgctgggtgc gtgagaacgg ggtgcactct ctgatcatag agccagtcac gtcacgtgat  
1260  
gccggcatct acacatgtat agctaccaac cgagcaggac agaactcatt cagcctggag  
1320  
cttggtggtg ctgctaaaga agcacacaaa cccctgtgtt ttattgagaa gctccaaaac  
1380

acaggagttg ctgatgggta cccagtgcgg ctggaatgtc gtgtattggg agtgccacca  
1440  
cctcagatat tttggaagaa agaaaatgaa tcactcactc acagcactga ccgagtgagc  
1500  
atgcaccagg acaaccacgg ctacatctgc ctgctcattc agggagccac aaaagaagat  
1560  
gctgggtggt atactgtgtc agccaagaat gaagcaggga ttgtgtcctg tactgccagg  
1620  
ctggacgttt acaccagtg gcatcagcag tcacagagca ccaagccaaa aaaagtacgg  
1680  
ccctcagcca gtcgctatgc agcactttcg gaccagggac tagacatcaa agcagcgttc  
1740  
caacctgagg ccaaccctc tcacctgaca ctgaatactg ccttggtaga aagtgaggac  
1800  
ctgtaatcca gcattcttgt taaagctgaa acactgaaac agccattgcc ttgaccaaca  
1860  
tattcctttg tcacattatg taaaaggcag aaacatacct ttgactataa gaaattaaaa  
1920  
aaaaacacca aaataatatt tttcttactt gatataccaa acttagttta agtagataat  
1980  
gctaatacaa atatacacat tgcacagaaa atacacattt actgtccaat ttaaaacttt  
2040  
ggaattgctg tgattaaagt gatcaaatg ccaaaatact aaaggaaatc aattgttcac  
2100  
aggtaactac aatttgtatt atctacaagt gcctttaaac acaagatata ggtgctgtgt  
2160  
agcctgatag tgtgaaatgt ttaatgaggg agttgtacca caaacagtac tacaatgatt  
2220  
ctgaagcaca gtgtattcag acagatacag tgaaccaagt gcaatatgta aggatgaaag  
2280  
aagaagagat gacaaagaaa tccaagtaaa tgccttgtct ttgcaaagt ttttatatta  
2340  
aatcataagg aaggaaactac ttgccttaaa tgtaaatatc aaaagagttt tctaacaagg  
2400  
ttaatacctt agttcttaac attttttttc tttatgtgta gtgttttcat gctaccttgg  
2460  
taggaaactt atttacaaac catattaaaa ggctaattta aatataaata atataaagt  
2520  
ctctgaataa agcagaaata tattacagtt cattccacag aaagcatcca aaccacccaa  
2580  
atgaccaagg catatatagt atttggagga atcaggggtt tggaaggagt agggaggaga  
2640  
atgaaggaaa atgcaaccag catgattata gtgtgttcat ttagataaaa gtagaaggca  
2700  
caggagaggt agcaaaggcc aggccttttct ttgggttttct tcaaacatag gtgaaaaaaa  
2760  
cactgccatt cacaagtcaa ggaaccaggg gccagctgga agtgtggagc acacatgctg  
2820  
tgagcacac atgctgtgga gattgcagtg tgtctgaggt ttgtgtagta gtggaagatt  
2880  
ttaggtatgt agagcaagtt gaaaatggat tgagactgca tgggtggcata aatgagaaat  
2940  
tgcctgtagc atctagtcta cttgaaggaa gtggagacat aaggagagac aaaaacaggt  
3000



ttgtgccata aagtatTTTT tcaaagacac caagatgtgg taaatgaaaa ttattagttc  
 3060  
 acttccctgc tgccatgaaa ctttgcctta agaaggtgct ggattccaag gtttgtaaag  
 3120  
 gcatctcggt aaagactgct ttttgaatgc atatgatttt gcatcagcta gactgagttg  
 3180  
 attctgacca gacttgatgg ttttaagtcg gaaccgataa attttaaaaa ggagaaaaaa  
 3240  
 taatttgacc tagtagtata aaacatgagg ctttaatggg actttgctat gaaaagaaaa  
 3300  
 cactgtattc cttatgcaaa acacatgtat ctttcattat ttataagtgg cctctcttag  
 3360  
 ctcagttact caattcatac gtagtatTTT ttaaaataat tttatatctg tgtaccaccc  
 3420  
 catatatTTT atattactgt ttcacatgta cagctttcta cttctttgta agaacaccaa  
 3480  
 ccaaccaagg ttttaagtga taataggctt gagcaccggg tggcagatgt tctatgcagt  
 3540  
 gtggttcaag tttctttgac cgcacttata tgcattgcta atatggaatt taagatacca  
 3600  
 tacacagtct ctcattggacc tatctctatt gtagaattat gactttcggt gtcgaatgac  
 3660  
 cactgctgga tgtacctttt tttctgagct ctggtttgcc tttcttgact gtggccatca  
 3720  
 ccatgtcacc cacaccagca gcgggaagtc tgttcagccg tcccttgatc cccttcacgg  
 3780  
 agatgatata caggTTTTT gctcctgtgt tgtcagcaca attgattaca gctcctaccg  
 3840  
 gaagacccaa ggaaatccgg aatttcgcac cagaggaccc accacgtcct cgcttcgaca  
 3900  
 tcttgaacgc cggaaaaaag aaaaaaggta catccagcag tggtcattcg acaacgaaag  
 3960  
 tcataccgta gaaaagatgg cgtgtttctt tattttgaag ataatgcagg agtcatagt  
 4020  
 aacaataaag gcgagatgaa aggttctgcc attacaggac cagtagcaaa ggagtgtgac  
 4080  
 gacttggtggc cccggattgc atccaatgct ggcagcattg catgc  
 4125

&lt;210&gt; 5052

&lt;211&gt; 433

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5052

Leu	Lys	Leu	Ser	Leu	Ile	Gln	Glu	Tyr	Lys	Val	Ser	Ser	Cys	Glu	Gln
1				5					10					15	
Arg	Leu	Ile	Ser	Glu	Ile	Glu	Tyr	Arg	Leu	Glu	Arg	Ser	Pro	Val	Asp
			20					25					30		
Glu	Ser	Gly	Asp	Glu	Phe	Thr	Tyr	Gly	Asp	Val	Pro	Val	Glu	Asn	Gly
		35					40					45			
Met	Ala	Pro	Phe	Phe	Glu	Met	Lys	Leu	Lys	His	Tyr	Lys	Ile	Phe	Glu
	50					55					60				
Gly	Met	Pro	Val	Thr	Phe	Thr	Cys	Arg	Val	Ala	Gly	Asn	Pro	Lys	Pro

```

65          70          75          80
Lys Ile Tyr Trp Phe Lys Asp Gly Lys Gln Ile Ser Pro Lys Ser Asp
      85          90          95
His Tyr Thr Ile Gln Arg Asp Leu Asp Gly Thr Cys Ser Leu His Thr
      100          105          110
Thr Ala Ser Thr Leu Asp Asp Asp Gly Asn Tyr Thr Ile Met Ala Ala
      115          120          125
Asn Pro Gln Gly Arg Ile Ser Cys Thr Gly Arg Leu Met Val Gln Ala
      130          135          140
Val Asn Gln Arg Gly Arg Ser Pro Arg Ser Pro Ser Gly His Pro His
      145          150          155          160
Val Arg Arg Pro Arg Ser Arg Ser Arg Asp Ser Gly Asp Glu Asn Glu
      165          170          175
Pro Ile Gln Glu Arg Phe Phe Arg Pro His Phe Leu Gln Ala Pro Gly
      180          185          190
Asp Leu Thr Val Gln Glu Gly Lys Leu Cys Arg Met Asp Cys Lys Val
      195          200          205
Ser Gly Leu Pro Thr Pro Asp Leu Ser Trp Gln Leu Asp Gly Lys Pro
      210          215          220
Val Arg Pro Asp Ser Ala His Lys Met Leu Val Arg Glu Asn Gly Val
      225          230          235          240
His Ser Leu Ile Ile Glu Pro Val Thr Ser Arg Asp Ala Gly Ile Tyr
      245          250          255
Thr Cys Ile Ala Thr Asn Arg Ala Gly Gln Asn Ser Phe Ser Leu Glu
      260          265          270
Leu Val Val Ala Ala Lys Glu Ala His Lys Pro Pro Val Phe Ile Glu
      275          280          285
Lys Leu Gln Asn Thr Gly Val Ala Asp Gly Tyr Pro Val Arg Leu Glu
      290          295          300
Cys Arg Val Leu Gly Val Pro Pro Pro Gln Ile Phe Trp Lys Lys Glu
      305          310          315          320
Asn Glu Ser Leu Thr His Ser Thr Asp Arg Val Ser Met His Gln Asp
      325          330          335
Asn His Gly Tyr Ile Cys Leu Leu Ile Gln Gly Ala Thr Lys Glu Asp
      340          345          350
Ala Gly Trp Tyr Thr Val Ser Ala Lys Asn Glu Ala Gly Ile Val Ser
      355          360          365
Cys Thr Ala Arg Leu Asp Val Tyr Thr Gln Trp His Gln Gln Ser Gln
      370          375          380
Ser Thr Lys Pro Lys Lys Val Arg Pro Ser Ala Ser Arg Tyr Ala Ala
      385          390          395          400
Leu Ser Asp Gln Gly Leu Asp Ile Lys Ala Ala Phe Gln Pro Glu Ala
      405          410          415
Asn Pro Ser His Leu Thr Leu Asn Thr Ala Leu Val Glu Ser Glu Asp
      420          425          430
Leu

```

&lt;210&gt; 5053

&lt;211&gt; 781

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5053

ttcaactgca caaaggctgt attgcagggg aggtgggagg gggcaggcag aacgctcctc  
 60  
 ctctggggtc ttggggcccc ggagcagagc ccagggatgg gctgagttag gggcttggca  
 120  
 ctctgtggaa gctgcagatg agagaccagc aatgcatcag ctgcacctgc agtagagcgc  
 180  
 ggagatagcg ttggaccatg tcctaagatg tccccgctgc gcccgtgct gctggccctg  
 240  
 gcccttgctt cegtgccttg cgcccagggc gctgccccg cctccgccga cctcaagcac  
 300  
 tcggacggga cgcgcaattg cgccaagctc tatgacaaga gcgacccta ctatgagaac  
 360  
 tgctgcgggg gcgcgagct gtcgctggag tcgggcgag acctgcccta cctgccctcc  
 420  
 aactgggcca acaccgcctc ctcaattgtg gtggccccgc gctgcgagct caccgtgtgg  
 480  
 tcccggaag gcaaggcggg caagacgcac aagttctctg ccggcaccta cccgcgcctg  
 540  
 gaggagtacc gccggggcat cttaggagac tggccaacg ctatctccgc gctctactgc  
 600  
 aggtgcagct gatgcattgc tggctctctca tctgcagctt ccacagagt ccaagccctt  
 660  
 cactcagccc atccctgggc tctgctccgg ggcccccaaga cccaggagga ggagcgttct  
 720  
 gcctgcccc tcccacctcc cctgcaatac agcctttgtg cagttgtaaa aaaaaaaaaa  
 780  
 a  
 781

&lt;210&gt; 5054

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5054

Glu	Thr	Ser	Asn	Ala	Ser	Ala	Ala	Pro	Ala	Val	Glu	Arg	Gly	Asp	Ser
1				5					10					15	
Val	Gly	Pro	Cys	Pro	Lys	Met	Ser	Pro	Leu	Arg	Pro	Leu	Leu	Leu	Ala
			20					25					30		
Leu	Ala	Leu	Ala	Ser	Val	Pro	Cys	Ala	Gln	Gly	Ala	Cys	Pro	Ala	Ser
			35				40					45			
Ala	Asp	Leu	Lys	His	Ser	Asp	Gly	Thr	Arg	Thr	Cys	Ala	Lys	Leu	Tyr
			50			55					60				
Asp	Lys	Ser	Asp	Pro	Tyr	Tyr	Glu	Asn	Cys	Cys	Gly	Gly	Ala	Glu	Leu
65					70				75					80	
Ser	Leu	Glu	Ser	Gly	Ala	Asp	Leu	Pro	Tyr	Leu	Pro	Ser	Asn	Trp	Ala
				85				90						95	
Asn	Thr	Ala	Ser	Ser	Leu	Val	Val	Ala	Pro	Arg	Cys	Glu	Leu	Thr	Val
			100					105					110		
Trp	Ser	Arg	Gln	Gly	Lys	Ala	Gly	Lys	Thr	His	Lys	Phe	Ser	Ala	Gly
			115				120					125			
Thr	Tyr	Pro	Arg	Leu	Glu	Glu	Tyr	Arg	Arg	Gly	Ile	Leu	Gly	Asp	Trp
			130			135					140				
Ser	Asn	Ala	Ile	Ser	Ala	Leu	Tyr	Cys	Arg	Cys	Ser				

145

150

155

<210> 5055  
 <211> 2520  
 <212> DNA  
 <213> Homo sapiens

<400> 5055  
 naggagcaag ccatgaaatt ggacacttgt tccaaaagcc aacctgtatg aacaatttct  
 60  
 gtaaaagcca aaaaattatg ctgaactttg gttaaaactt gaataaacta tttaatgatg  
 120  
 ctactgctta aattctaaat aagtactttt gttttttctc tctaactctc tcccatcccc  
 180  
 tcctctcttt ctcttaaagg catggagagt agaaaactga tttctgctac agacattcag  
 240  
 tactctggca gtctgctgaa ctcttgaat gagcaacgtg gccatggact cttctgtgat  
 300  
 gttaccgtta ttgtggaaga cggaaaattc cgggctcaca agaatttctt ttcagcttct  
 360  
 agtacctact tccatcagct cttctctggt gctgggcaag ttgttgaact gagctttata  
 420  
 agagcagaga tctttgcaga aattctcaat tatatctata gttctaaaat tgttcgtggt  
 480  
 agatcagatt tgcttgatga gttaattaaa tcagggcagt tattaggagt gaaatttata  
 540  
 gcagagcttg gtgtccatt gtcacagggt aaaagcatct caggtagcgc gcaggatggt  
 600  
 aatactgagc ctttacctcc tgattctggt gacaagaacc ttgtaataca gaaatcaaaa  
 660  
 gatgaagccc aagataatgg ggctactata atgcctatta taacagagtc tttttcatta  
 720  
 tctgccgaag attatgaaat gaaaaagatc attgttaccg attctgatga tgatgatgat  
 780  
 gatgtcatTT tttgtccga gattctgccc acaaaggaga ctttgccgag taataacaca  
 840  
 gtggcacagg tccaatctaa cccaggccct gttgctatTT cagatggtgc acctagtgtc  
 900  
 agcaataact cgcccccttt aacaaatata acacctactc agaaacttcc tactcctgtg  
 960  
 aatcaggcaa ctttgagcca aacacaagga agtgaaaaat tgttggtatc ttcagctcca  
 1020  
 acacatctga ctccaatat ttttttgta aatcagacac cactttctac accaccaaat  
 1080  
 gtcagttctt cacttccaaa tcatatgccc tcttcaatca atttacttgt gcagaatcag  
 1140  
 cagacaccaa acagtgtat tttaacagga aacaaggcca atgaagagga ggaggaggaa  
 1200  
 ataatagatg atgatgatga cactattagc tccagtccctg actcggccgt cagtaataca  
 1260  
 tctttggtcc cacaggctga tacctcccaa aataccagtt ttgatggatc attaatacag  
 1320  
 aagatgcaga ttcctacact tcttcaagaa ccactttcca attccttaaa aatttcagat  
 1380

ataattacta gaaatactaa tgatccaggc gtaggatcaa aacatctaataat ggaggggtcag  
 1440  
 aagatcatta ctttagatac agctactgaa attgaaggct tatcgactgg ttgcaagggtt  
 1500  
 tatgcaaata tcggtgaaga tacttatgat atagtgatcc ctgtcaaaga tgaccctgat  
 1560  
 gaaggggagg ccagacttga gaatgaaata ccaaaaacgt ctggcagcga gatggcaaac  
 1620  
 aaacgtatga aagtaaaaca tgatgatac tatgagttaa tagtagatgg aagggtctat  
 1680  
 tataatctgta ttgtatgcaa aagggtcatat gtctgtctga caagcttgcg gagacatttt  
 1740  
 aacattcatt cttgggagaa gaagtatccg tgccgttact gtgagaagggt atttcctctt  
 1800  
 gcagaatatc gcacaaagca tgaaattcat cacacagggg agcgaaggta tcagtgtttg  
 1860  
 gcctgtggca aatctttcat caactatcag tttatgtctt cacatataaa gtcagttcat  
 1920  
 agtcaagatc cttctgggga ctcaaagctt tatcgtttac atccatgcag gtctttacaa  
 1980  
 atcagacaat atgcatatca ttccgataga tcaagcacta ttcttgcaat gaaggatgat  
 2040  
 ggtattgggt ataagggtga cactggaaaa gaacctccag tagggaccac tacatctact  
 2100  
 cagaacaagc caatgacctg ggaagatatt tttattcagc aggaaaatga ttcaattttt  
 2160  
 aaacaaaatg taacagatgg cagtactgag tttgaattta taataccaga gtcttactaa  
 2220  
 actcctttga aatactagaa agttttgttt tggatgatgg ggcagggggt tcagaagatc  
 2280  
 tgtaaaacaa attaagggtgc gaacaagtta atttgatctg ccacattatc tgaagggaagt  
 2340  
 gtagtgggat ttttgttgat aattttttaga agcaaatttt cctgaaagtt ttgagtagag  
 2400  
 gtgagacccc ctccccaagt atctgtttat atagttagtt ttcagctcat ttaaaagagg  
 2460  
 caaaaattaa aagcttggag agatagtttc ctgaatagaa tttgaagcag tctgaatgtt  
 2520

&lt;210&gt; 5056

&lt;211&gt; 672

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5056

Met	Glu	Ser	Arg	Lys	Leu	Ile	Ser	Ala	Thr	Asp	Ile	Gln	Tyr	Ser	Gly
1				5					10					15	
Ser	Leu	Leu	Asn	Ser	Leu	Asn	Glu	Gln	Arg	Gly	His	Gly	Leu	Phe	Cys
			20						25				30		
Asp	Val	Thr	Val	Ile	Val	Glu	Asp	Arg	Lys	Phe	Arg	Ala	His	Lys	Asn
		35					40				45				
Ile	Leu	Ser	Ala	Ser	Ser	Thr	Tyr	Phe	His	Gln	Leu	Phe	Ser	Val	Ala
	50					55					60				
Gly	Gln	Val	Val	Glu	Leu	Ser	Phe	Ile	Arg	Ala	Glu	Ile	Phe	Ala	Glu

```

65          70          75          80
Ile Leu Asn Tyr Ile Tyr Ser Ser Lys Ile Val Arg Val Arg Ser Asp
      85          90          95
Leu Leu Asp Glu Leu Ile Lys Ser Gly Gln Leu Leu Gly Val Lys Phe
      100          105          110
Ile Ala Glu Leu Gly Val Pro Leu Ser Gln Val Lys Ser Ile Ser Gly
      115          120          125
Thr Ala Gln Asp Gly Asn Thr Glu Pro Leu Pro Pro Asp Ser Gly Asp
      130          135          140
Lys Asn Leu Val Ile Gln Lys Ser Lys Asp Glu Ala Gln Asp Asn Gly
145          150          155          160
Ala Thr Ile Met Pro Ile Ile Thr Glu Ser Phe Ser Leu Ser Ala Glu
      165          170          175
Asp Tyr Glu Met Lys Lys Ile Ile Val Thr Asp Ser Asp Asp Asp Asp
      180          185          190
Asp Asp Val Ile Phe Cys Ser Glu Ile Leu Pro Thr Lys Glu Thr Leu
      195          200          205
Pro Ser Asn Asn Thr Val Ala Gln Val Gln Ser Asn Pro Gly Pro Val
      210          215          220
Ala Ile Ser Asp Val Ala Pro Ser Ala Ser Asn Asn Ser Pro Pro Leu
225          230          235          240
Thr Asn Ile Thr Pro Thr Gln Lys Leu Pro Thr Pro Val Asn Gln Ala
      245          250          255
Thr Leu Ser Gln Thr Gln Gly Ser Glu Lys Leu Leu Val Ser Ser Ala
      260          265          270
Pro Thr His Leu Thr Pro Asn Ile Leu Leu Asn Gln Thr Pro Leu
      275          280          285
Ser Thr Pro Pro Asn Val Ser Ser Ser Leu Pro Asn His Met Pro Ser
      290          295          300
Ser Ile Asn Leu Leu Val Gln Asn Gln Gln Thr Pro Asn Ser Ala Ile
305          310          315          320
Leu Thr Gly Asn Lys Ala Asn Glu Glu Glu Glu Glu Glu Ile Ile Asp
      325          330          335
Asp Asp Asp Asp Thr Ile Ser Ser Ser Pro Asp Ser Ala Val Ser Asn
      340          345          350
Thr Ser Leu Val Pro Gln Ala Asp Thr Ser Gln Asn Thr Ser Phe Asp
      355          360          365
Gly Ser Leu Ile Gln Lys Met Gln Ile Pro Thr Leu Leu Gln Glu Pro
      370          375          380
Leu Ser Asn Ser Leu Lys Ile Ser Asp Ile Ile Thr Arg Asn Thr Asn
385          390          395          400
Asp Pro Gly Val Gly Ser Lys His Leu Met Glu Gly Gln Lys Ile Ile
      405          410          415
Thr Leu Asp Thr Ala Thr Glu Ile Glu Gly Leu Ser Thr Gly Cys Lys
      420          425          430
Val Tyr Ala Asn Ile Gly Glu Asp Thr Tyr Asp Ile Val Ile Pro Val
      435          440          445
Lys Asp Asp Pro Asp Glu Gly Glu Ala Arg Leu Glu Asn Glu Ile Pro
      450          455          460
Lys Thr Ser Gly Ser Glu Met Ala Asn Lys Arg Met Lys Val Lys His
465          470          475          480
Asp Asp His Tyr Glu Leu Ile Val Asp Gly Arg Val Tyr Tyr Ile Cys
      485          490          495
Ile Val Cys Lys Arg Ser Tyr Val Cys Leu Thr Ser Leu Arg Arg His

```

			500					505					510			
Phe	Asn	Ile	His	Ser	Trp	Glu	Lys	Lys	Tyr	Pro	Cys	Arg	Tyr	Cys	Glu	
		515					520					525				
Lys	Val	Phe	Pro	Leu	Ala	Glu	Tyr	Arg	Thr	Lys	His	Glu	Ile	His	His	
	530					535					540					
Thr	Gly	Glu	Arg	Arg	Tyr	Gln	Cys	Leu	Ala	Cys	Gly	Lys	Ser	Phe	Ile	
545					550					555					560	
Asn	Tyr	Gln	Phe	Met	Ser	Ser	His	Ile	Lys	Ser	Val	His	Ser	Gln	Asp	
				565					570					575		
Pro	Ser	Gly	Asp	Ser	Lys	Leu	Tyr	Arg	Leu	His	Pro	Cys	Arg	Ser	Leu	
			580					585					590			
Gln	Ile	Arg	Gln	Tyr	Ala	Tyr	His	Ser	Asp	Arg	Ser	Ser	Thr	Ile	Pro	
		595					600					605				
Ala	Met	Lys	Asp	Asp	Gly	Ile	Gly	Tyr	Lys	Val	Asp	Thr	Gly	Lys	Glu	
	610					615					620					
Pro	Pro	Val	Gly	Thr	Thr	Thr	Ser	Thr	Gln	Asn	Lys	Pro	Met	Thr	Trp	
625					630					635					640	
Glu	Asp	Ile	Phe	Ile	Gln	Gln	Glu	Asn	Asp	Ser	Ile	Phe	Lys	Gln	Asn	
				645					650					655		
Val	Thr	Asp	Gly	Ser	Thr	Glu	Phe	Glu	Phe	Ile	Ile	Pro	Glu	Ser	Tyr	
			660					665					670			

```
<210> 5057
<211> 673
<212> DNA
<213> Homo sapiens
```

```

<400> 5057
nnggcggcgc agctattgct ggacggccag tgggagagcg aggcctgagc ctctgcgtct
60
aggatcaaaa tggtttcaat ccagaatac tatgaaggca agaacgtcct cctcacagga
120
gctaccggtt ttctagggaa ggtgcttctg gaaaagttgc tgaggtcttg tcctaagggtg
180
aattcagtat atgttttggg gaggcagaaa gctggacaga caccacaaga gcgagtggaa
240
gaagtcctta gtggcaagct ttttgacaga ttgagagatg aaaatccaga ttttagagag
300
aaaattatag caatcaacag cgaactcacc caacctaaac tggctctcag tgaagaagat
360
aaagagggtga tcatagattc taccaatatt atattccact gtgcagctac agtaaggttt
420
aatgaaaatt taaggtaagt acaagtaatt atataatatt tgaacttcag tatagttatt
480
aaaaaatctc attttaattc tacttttttag tcaatttggt ttgaatgtga tttgatacta
540
tttgccatag ttaactgtgg ctttcagtgt cctacagagt gttaaaagaa ttctcttctt
600
cttctcagtt taaaaatctt ggataactaa tacatgttta ttggaagaag ttgccatgaa
660
tttaaacatg cat
673

```

<210> 5058

<211> 122  
 <212> PRT  
 <213> Homo sapiens

<400> 5058  
 Met Val Ser Ile Pro Glu Tyr Tyr Glu Gly Lys Asn Val Leu Leu Thr  
 1 5 10 15  
 Gly Ala Thr Gly Phe Leu Gly Lys Val Leu Leu Glu Lys Leu Leu Arg  
 20 25 30  
 Ser Cys Pro Lys Val Asn Ser Val Tyr Val Leu Val Arg Gln Lys Ala  
 35 40 45  
 Gly Gln Thr Pro Gln Glu Arg Val Glu Glu Val Leu Ser Gly Lys Leu  
 50 55 60  
 Phe Asp Arg Leu Arg Asp Glu Asn Pro Asp Phe Arg Glu Lys Ile Ile  
 65 70 75 80  
 Ala Ile Asn Ser Glu Leu Thr Gln Pro Lys Leu Ala Leu Ser Glu Glu  
 85 90 95  
 Asp Lys Glu Val Ile Ile Asp Ser Thr Asn Ile Ile Phe His Cys Ala  
 100 105 110  
 Ala Thr Val Arg Phe Asn Glu Asn Leu Arg  
 115 120

<210> 5059  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<400> 5059  
 ctcgagaact gaaagacact ctctatgggt taagccaccc agtgcattggt atcttggtat  
 60  
 aactgcccga gctgactgag acggacgttc aggacagaga gcgtgaatgc atagtgcac  
 120  
 cagctgtgag tctttctcca gggacagtcg gcagccggcc ctaggtgcag agccgatgac  
 180  
 aaggaccag gctctcagca ggtcttccaa gcagtgtggt agaaaggcag gcaggggtgtg  
 240  
 gggaagtgga gccaggccac cagtcattgat gtcaagactg agccaggaag caaaggcagg  
 300  
 cagagagatg gggaggagag ggagcaggag gggactggcc atctctgaga cagaagcgtg  
 360  
 agtagtgggt ggacttgagg gcaggagagg actgaaaggg cagaggcctg ggcgatgcag  
 420  
 ccagagaggg agatgctggt gtggggaggt ctgggcaggg atgttttagg tgatggcaga  
 480

<210> 5060  
 <211> 114  
 <212> PRT  
 <213> Homo sapiens

<400> 5060  
 Met Ala Ser Pro Leu Leu Pro Leu Leu Pro Ile Ser Leu Pro Ala  
 1 5 10 15  
 Phe Ala Ser Trp Leu Ser Leu Asp Ile Met Thr Gly Gly Leu Ala Pro



				20				25				30			
Leu	Pro	His	Thr	Leu	Pro	Ala	Phe	Leu	Pro	His	Cys	Leu	Glu	Asp	Leu
				35				40				45			
Leu	Arg	Ala	Trp	Val	Leu	Val	Ile	Gly	Ser	Ala	Pro	Arg	Ala	Gly	Cys
				50				55				60			
Arg	Leu	Ser	Leu	Glu	Lys	Asp	Ser	Gln	Leu	Val	Ser	Leu	Cys	Ile	His
				65				70				75			
Ala	Leu	Cys	Pro	Glu	Arg	Pro	Ser	Gln	Ser	Ala	Arg	Ala	Val	Ile	Thr
				85				90				95			
Arg	Tyr	His	Ala	Leu	Gly	Gly	Leu	Thr	His	Arg	Glu	Cys	Leu	Ser	Val
				100				105				110			
Leu	Glu														

```
<210> 5061
<211> 2462
<212> DNA
<213> Homo sapiens
```

<400>	5061				
gcggcccgcca	atTTTTTTTTT	TTTTTTTTTTT	TTTTTTTTTaa	aaaggcccaa	aactttattt
60					
agtttttcagg	gaaatataag	atgcatgtaa	acataaaaata	caaaacaaaa	cccaaattctt
120					
acagtctaga	agcatgccaa	gacagagcat	tttctgcaga	ccaaagagtc	ccgtcaaagt
180					
gataaaggac	acctggaaaag	tggcaggcca	aggggctggg	cccttcccca	agggcactgc
240					
atttttgtga	tgagattaaa	aacaaaccaa	ctccactatt	aaaaatgcta	gaaacatgga
300					
gatagtttag	caccaccatt	gattctggaa	atatttcagc	actcaaateg	actgcactga
360					
gtttaatgtc	ctttctccag	tttctctgct	gaggaggaaa	gaaggaaaac	ctggaggaag
420					
ggctcctcct	gaccccacag	agcccactaa	gagctgggag	gggaattcca	tgaggaattc
480					
tccaaggttc	tggagctcca	gagacatcca	ccagtcccca	cccagccatg	cagtccacat
540					
gctcacgctt	cagggattac	tgaagtctgc	cttgcccggg	agtcacttcc	tgcagacctc
600					
tgagtacctg	gtggggaaaac	ccatttccca	tcctgtgtct	tggattttaa	gaaaacctgt
660					
tggagataat	gagttgtaaa	ttcaaggagg	gtggctgttt	tgctgttctt	tctctgcagt
720					
aaactcttat	ggggagtgtg	ccttggttat	aaggcaacgc	aaaatggtag	ggtatatcca
780					
tggatgaatg	ttcatcacac	ccaatcta	tcataccagg	tggcaggctc	agcaaactga
840					
accaccacag	gtgtcagaga	tacttgagaa	tgactggtac	caacaagacg	acaaaggagg
900					
ttgccttcct	cccagatgtg	cccaatggag	tctgaactct	ggttctaatt	tgtggagggtg
960					
ggtccctact	gtatgaccca	ttgtgggtcac	tgctctttga	gccatacaac	ttgagagact
1020					

ggcttttgat tggacagtca aaggggaagtg ggcaaaacca gctgagaacc cgggagctgg  
1080  
atgcatatat tctggaatca gggcctgcaa actcaaagat tggtttgtgg ctggtgactt  
1140  
ctctctgcta agtaaataca tgaccattca ttgagaactg atggggaccc agcgtgtggc  
1200  
ccaatgagtg gcagtttttt cctagccagc ttctgtggcc aaatttggag gattttccaa  
1260  
cctgctatgg ctggaccctt ggggtgttaa tcaactaaatt ccctttctac ctgctctctt  
1320  
cttcctgaaa cactcagagc tgacttcttc cttcttttcta atcaacaaag acaaaactcc  
1380  
aagccccctt tcagccttca cacaattttt ctttctagaa gacatccgct tctggaagcc  
1440  
tccttcccta atgaaggagc agtaggcccc agctacccca aacatgcaca tgctcttctc  
1500  
accaacgtgc ctctcacttg cctctaactg gctcgagcca tccttttgtt ctaaataatt  
1560  
cttctctcct ccctcccttt tttctcttct acctcttgag gcgcagccta ttggccagga  
1620  
tggaactggg agcaaggcgg ggaccttcag tgcaggggac ccattctctt aaggccactg  
1680  
agttctagga ctggagtagg agaggggtgct gttgtcaagg ttaagtgcaa acttgagatt  
1740  
ttaaaaagac aggattgggg aagggggatt gcatgctaata cccaacctta taggcaggct  
1800  
gggatcaaga ccttggaagg tagggctctc caccagctct gtaagcacca gtgtgcccac  
1860  
cttatggcct ggggacccag gtttgcagga gggaagttaa cagtggggct gtttttcccc  
1920  
aaagctgtgg gtcactgate ctgtcttctc actggctctg atcatgcagc ttgggaacca  
1980  
cagagacatg agactgcacc aaacagggtg gatgatttag ccagaaactc aggaagggtc  
2040  
agcacagccc tccacacact tcccaggaag tgtttgggtc ggccctgcag ttgggactaa  
2100  
acttatatgc acctgcaggt cttgttgggt gcaccgtgag caagttctca cccaaccac  
2160  
ctgaccaccc ctctgaaaca aggacgaaag ggctggcagc tttcattata aggggtctct  
2220  
catacccatg gcatggctga ggggtgggag tcagcctgct cgatgacacg tctgcagggg  
2280  
atgacctaac tgaaccaact cagtgtttct attcccagtg gcatctcttt tgcacatctt  
2340  
cattttggag cctgggatga ctgcctaggc cacttatgct agacctgtta atgccagtgt  
2400  
gaaatttcca actaaatact taataaaaata attacaaaaa gaaaaaaaaa tgacacattg  
2460  
ca  
2462

&lt;210&gt; 5062

&lt;211&gt; 136

&lt;212&gt; PRT

<213> Homo sapiens

<400> 5062

```

Met Ala Gly Trp Gly Leu Val Asp Val Ser Gly Ala Pro Glu Pro Trp
 1           5           10           15
Arg Ile Pro His Gly Ile Pro Leu Pro Ala Leu Ser Gly Leu Cys Gly
      20           25           30
Val Arg Arg Ser Pro Ser Ser Arg Phe Ser Phe Phe Pro Pro Gln Gln
      35           40           45
Arg Asn Trp Arg Lys Asp Ile Lys Leu Ser Ala Val Asp Leu Ser Ala
      50           55           60
Glu Ile Phe Pro Glu Ser Met Val Val Leu Asn Tyr Leu His Val Ser
      65           70           75           80
Ser Ile Phe Asn Ser Gly Val Gly Leu Phe Leu Ile Ser Ser Gln Lys
      85           90           95
Cys Ser Ala Leu Gly Glu Gly Thr Ser Pro Leu Ala Cys His Phe Pro
      100          105          110
Gly Val Leu Tyr His Phe Asp Gly Thr Leu Trp Ser Ala Glu Asn Ala
      115          120          125
Leu Ser Trp His Ala Ser Arg Leu
      130          135

```

<210> 5063

<211> 561

<212> DNA

<213> Homo sapiens

<400> 5063

```

gacgcaaccc cagtgtcaaa ccagggggta agtcaaggta tccggccagg cgccggcagc
60
tgagggggcc cagtggggtc tcgtctgtgg cccagagacg tggcggaaga aggcagtaca
120
tctcccttct tagagagaga gtggaagctt ctgagtgtgg cttgggtcgt tctgaaccat
180
ggtgacgttt ccaccctgcc actgcctgtc ttccagtttg acttgctgga aatggaccgg
240
ctggagaggc cactggttga cctgccgctc ctctggacc cgccctccta cgtgcccgc
300
acggtggacc tcaccgatga cgctctggcc cgaaaatact ggctcacctg ctttgaggag
360
gccctggacg gggtagtgaa gcgcgcagtg gcgagccagc cagactctgt ggatgcagcc
420
gagagggcgg agaagttccg gcagaagtac tggaacaagc ttcagaccct gaggcagcag
480
cccttcgctt atgggaccct gaccgtgcgc agcctgctgg acaccaggga gcactgtctg
540
aacgagttca acttcccgga t
561

```

<210> 5064

<211> 110

<212> PRT

<213> Homo sapiens

&lt;400&gt; 5064

```

Met Asp Arg Leu Glu Arg Pro Leu Val Asp Leu Pro Leu Leu Leu Asp
 1           5           10           15
Pro Pro Ser Tyr Val Pro Asp Thr Val Asp Leu Thr Asp Asp Ala Leu
 20           25           30
Ala Arg Lys Tyr Trp Leu Thr Cys Phe Glu Glu Ala Leu Asp Gly Val
 35           40           45
Val Lys Arg Ala Val Ala Ser Gln Pro Asp Ser Val Asp Ala Ala Glu
 50           55           60
Arg Ala Glu Lys Phe Arg Gln Lys Tyr Trp Asn Lys Leu Gln Thr Leu
 65           70           75           80
Arg Gln Gln Pro Phe Ala Tyr Gly Thr Leu Thr Val Arg Ser Leu Leu
 85           90           95
Asp Thr Arg Glu His Cys Leu Asn Glu Phe Asn Phe Pro Asp
 100           105           110

```

&lt;210&gt; 5065

&lt;211&gt; 370

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5065

```

attgaggacg cgcgggagcg aatgaggacg ctgcggaagc tgatccggga tctcccagga
60
cactactatg aaacgctcaa attccttggtg ggccatctca agaccatcgc tgaccactct
120
gagaaaaaca agatggaacc ccggaacctg gccctggtct ttgggccgac actggtgagg
180
acgtctgagg acaacatgac agacatggtg acccacatgc ctgaccgcta caagatcgtg
240
gagacactga tccagcactc agactgggtc ttcagtgcgc aagaggacaa gggagagaga
300
attctaccac ctgtagtcca gtcaagtcca agggttcgtg ggcccccaag aaggagccgt
360
acgcccgggc
370

```

&lt;210&gt; 5066

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5066

```

Ile Glu Asp Ala Arg Glu Arg Met Arg Thr Leu Arg Lys Leu Ile Arg
 1           5           10           15
Asp Leu Pro Gly His Tyr Tyr Glu Thr Leu Lys Phe Leu Val Gly His
 20           25           30
Leu Lys Thr Ile Ala Asp His Ser Glu Lys Asn Lys Met Glu Pro Arg
 35           40           45
Asn Leu Ala Leu Val Phe Gly Pro Thr Leu Val Arg Thr Ser Glu Asp
 50           55           60
Asn Met Thr Asp Met Val Thr His Met Pro Asp Arg Tyr Lys Ile Val
 65           70           75           80
Glu Thr Leu Ile Gln His Ser Asp Trp Phe Phe Ser Asp Glu Glu Asp

```

	85		90		95										
Lys	Gly	Glu	Arg	Ile	Leu	Pro	Pro	Val	Val	Gln	Ser	Ser	Pro	Arg	Val
	100							105					110		
Arg	Gly	Pro	Pro	Arg	Arg	Ser	Arg	Thr	Pro	Gly					
	115						120								

&lt;210&gt; 5067

&lt;211&gt; 2023

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5067

gctgaggcac aacatgatcg agagcttcgg nagcttgaac agaggggtctc cctccggagg  
 60  
 gcactcttag aacaaaagat tgaagaagag atgttggctt tgcagaatga gcgcacagaa  
 120  
 cgaatacgaa gcctgttgga acgtcaagcc agagagattg aagcttttga ctctgaaagc  
 180  
 atgagactag gttttagtaa tatggctcctt tctaactctt cccctgagggc attcagccac  
 240  
 agctacccgg gagcttctgg ttggtcacac aaccctactg ggggtccagg acctcactgg  
 300  
 ggtcatccca tgggtggccc accacaagct tggggccatc caatgcaagg tggaccccag  
 360  
 ccattggggtc acccttcagg gccaatgcaa ggggtacctc gaggtagcag tatgggagtc  
 420  
 cgcaatagcc cccaggctct gaggcggaca gcttctgggg gacggacaga gcagggcatg  
 480  
 agcagaagca cgagtgtcac ttcacaaata tccaatgggt cacacatgtc ttatacataa  
 540  
 cttaataatt gagagtggca attccgctgg agctgtctgc caaaagaaac tgcctacaga  
 600  
 catcatcaca gcagcctcct cacttgggta ctacagtgtg gaagctgagt gcatatggta  
 660  
 tattttattc atttttgtaa agcgttctgt tttgggttta ctaattggga tgtcatagta  
 720  
 cttggctgcc gggtttgttt gtttttgggg aaattttgaa aagtggagtt gatattaaaa  
 780  
 ataaatgtgt atgtgtgtac atatataac acacacatac acatatatta tgcattgtgt  
 840  
 gaaaagaatt ggctagatag gggatttttc tgaacactgc aaaaatagaa cgtagcaaaa  
 900  
 tggcttcagt tatcactttt ggggtgtctgt atcctaagaa gtttctgaaa agatctaaag  
 960  
 cctttttatc ccatatccca aattcttatg agccactcac agcaggcagc atatgttgaa  
 1020  
 ataagttatt actggtacac acctgcattg cctcaccagt gtattttatt gttattaaat  
 1080  
 tgatctgact tctcagcctc atttggacta aaaaaagaaa gcagaaatcc atgaacacat  
 1140  
 tgcttctcgg ccttttggct aagatcaagt gtagaaatcc atgaacacta aaggacttca  
 1200  
 ttgatttttt cagagagtag aaaacaactt agtttttctt ttttctgaa tgcgtcatag  
 1260

gcttgtgagt gatttttgtc cattcaattg tgccttcttt gtattatgat aagatggggg  
 1320  
 tacttaagga gatcacaagt tgtgtgagga ttgcattaac aaacctatga gccttcaatg  
 1380  
 gggaagacca gaagggtgag aggggccctg aaagttcata tgggtgggtat gtcccgacgc  
 1440  
 agagtgagga gatgaagctt acgtgtcctg acgttttggt gcttatactg tgatatctca  
 1500  
 tcctagctaa gctctataat gcccaagacc ccaaacagta cttttacttt gtttgtacaa  
 1560  
 aaacaaagac atatagccaa tacaaatcaa atgccggagg tgtttgatgc catatttgca  
 1620  
 aattgccatc tattgaaatt ctggtcacac tacatagaca taattgttat ctcttttgg  
 1680  
 cttatgtgat tttctgttta caagtagaat agccaattat ttaaagtgtt agttgccaca  
 1740  
 gtgaaccagg agtcactgag ccaatgactt taccagctgc tgactaatct tcatcaccac  
 1800  
 tgtagatttt gctgcatgtg caggctcctt atttttaatt gctgttttcg ttgctgcagt  
 1860  
 actttacaaa ctctagttc gttgagactt agtgaccatt tggcatcaag ttaacatcac  
 1920  
 acaataggaa acaccacttc cacaagtctc aagcctcagt gctaaagtac tactgaaaag  
 1980  
 gaactaggaa gtttggccaa ttaaaaaaaaa aaaaaagtcg acc  
 2023

&lt;210&gt; 5068

&lt;211&gt; 179

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5068

Ala	Glu	Ala	Gln	His	Asp	Arg	Glu	Leu	Arg	Xaa	Leu	Glu	Gln	Arg	Val
1				5					10					15	
Ser	Leu	Arg	Arg	Ala	Leu	Leu	Glu	Gln	Lys	Ile	Glu	Glu	Glu	Met	Leu
			20					25					30		
Ala	Leu	Gln	Asn	Glu	Arg	Thr	Glu	Arg	Ile	Arg	Ser	Leu	Leu	Glu	Arg
		35					40					45			
Gln	Ala	Arg	Glu	Ile	Glu	Ala	Phe	Asp	Ser	Glu	Ser	Met	Arg	Leu	Gly
	50					55				60					
Phe	Ser	Asn	Met	Val	Leu	Ser	Asn	Leu	Ser	Pro	Glu	Ala	Phe	Ser	His
65				70					75					80	
Ser	Tyr	Pro	Gly	Ala	Ser	Gly	Trp	Ser	His	Asn	Pro	Thr	Gly	Gly	Pro
			85					90					95		
Gly	Pro	His	Trp	Gly	His	Pro	Met	Gly	Gly	Pro	Pro	Gln	Ala	Trp	Gly
		100						105				110			
His	Pro	Met	Gln	Gly	Gly	Pro	Gln	Pro	Trp	Gly	His	Pro	Ser	Gly	Pro
		115					120					125			
Met	Gln	Gly	Val	Pro	Arg	Gly	Ser	Ser	Met	Gly	Val	Arg	Asn	Ser	Pro
	130					135				140					
Gln	Ala	Leu	Arg	Arg	Thr	Ala	Ser	Gly	Gly	Arg	Thr	Glu	Gln	Gly	Met
145				150				155					160		
Ser	Arg	Ser	Thr	Ser	Val	Thr	Ser	Gln	Ile	Ser	Asn	Gly	Ser	His	Met

	165	170	175
Ser Tyr Thr			
<210> 5069			
<211> 3655			
<212> DNA			
<213> Homo sapiens			
<400> 5069			
ntttttttttt	tttttttttt	tttggaaagtc	ctgagttgag gcttgcggga tcctttccgg
60			
agaaagcgca	ggctaaagcc	gcaggtgaag	atgtccaact acgcgaacga catgtggccg
120			
ggctcgccgc	aggagaagga	ttcgccctcg	acctcgcggt cgggcgggtc cagccggctg
180			
tcgtcgcggt	ctaggagccg	ctctttttcc	agaagctctc ggtcccatc ccgcgtctcg
240			
agccggtttt	cgtccaggag	tcggaggagc	aagtccaggt cccgttcccg aaggcgccac
300			
cagcggaagt	acaggcgcta	ctcgcggtca	tactcgcgga gccggtcgcg atcccgcagc
360			
cgccggttacc	gagagaggcg	ctacgggttc	accaggagat actaccggtc tccttcgctg
420			
taccggtccc	ggccccgtag	caggtcgcg	tctcggggaa ggctgtactg cggaagggcg
480			
tacgcgatcg	cgcggggaca	gcgctactac	ggctttgggtc gcacagtgtg cccggaggag
540			
cacagcagat	ggagggacag	atccaggacg	aggtcgcgga gcagaacccc ctttcgctta
600			
agtgaaaaaag	gtgggtgggt	catttacctt	tccatttgtg gtaatgtatg gtggcagtat
660			
atgagtaggc	tagggaacca	acgttgctgt	gtagtttcaa tattagttcc tttagtcccc
720			
gaaatctttt	tggaggaaaag	agggaggaca	ttacctgtat ttaagtggac agcattctct
780			
ttagggttaa	aggtcaactg	gaagttaa	ggctcaggat gtagggaact tttttccta
840			
ttggctgact	gttcttagtg	ggtggagcct	tttaa
900			
aagttaacgt	gattgggaag	aacaatatca	aaacacgcct tcttttagtt gacattatta
960			
ctgaataaaa	ttggattgtc	gagtatccta	agtgacctag gaggccgggc gcggcggtc
1020			
acctctgtaa	tcccagcact	tggggaggcg	gaggccggagg cgggtgggtc acttgaggcc
1080			
aggcgttcca	caccagccag	gccaacatag	ctcactatct agtaaaagta caaaaattag
1140			
ccgggggtgg	cggtagaaat	acactttagt	agtgtatcag tattggttca gtggttctga
1200			
taattatata	aagaatctac	agcagaaaaa	cctgggttttc agaaatacat ctttgaagag
1260			
aaagcaaaat	aatatcacta	ttagctagag	aaaattaagt acaacaaaaa gacaaaataa
1320			

taggacgctc aggcctttag tcaagaaaac aaaactaatt gttgagataa tttagaatt  
1380  
ttattctttt cagcaagaaa tgagctggag aatagaattt tcagtgaata aagttacaca  
1440  
gttgccctc tgttccctc ggggtttggt gccaggatgc atatggaacc ctgcgcaca  
1500  
cttgggggtt acagtctctc aaacactgtg gtactttcta tctgcattta gtaaggggga  
1560  
gaaaaaaca gtataaagt gaccagcgca gctactagt ttcaaggga accttagttt  
1620  
acctattata aaacaagtga cttaatat ttaataccac aaaataacat atttattgtg  
1680  
taattctgag ttctcttggg aaataactac cagattaatg agtatttta aatctctctc  
1740  
ttttttttt agatcgaatg gagctgtag aaatagcaaa aaccaatgca gcgaaagctc  
1800  
taggaacaac caacattgac ttgccagcta gtctcagaac tgttccttca gccaaagaaa  
1860  
caagccgtgg aataggtgta tcaagtaatg gtgcaaagcc tgaagtaagt attctagggt  
1920  
tgtcggaaca aaactttcag aaagccaact gtcaaactctg attagccact tatatcttag  
1980  
actatacttt ttgggaagtc tagagatgta tataatgtgc taaattcaaa gtagcaaatc  
2040  
tgaagatagg caatgtcaaa cccatgaaaa tgggagatta atgagcttta tttggccgtg  
2100  
catggtgcct catgcctgta atgaggcaga tggcttgagt ccaggagttc aagactagcc  
2160  
tgggcaatgt ggcaaaaccg cgtgtttaca aaaaatacaa aaattagcca ggcattggtg  
2220  
tgcattgctg tagtcccagc tgtttgggag gctgaggcag gaggatcttt ggccttagga  
2280  
tgctaagggt gcagtgaagc aagatggcac cattgcactc tagcctgggc agcagagcga  
2340  
gacctgtct caaaaaatac atttattttt ttcatTTTca gttacagtg tactcttata  
2400  
acaccgttat tagctggtac tttgggtgatt tctattacta gtttttctaa gctatttaca  
2460  
gagtgtttgt agctttcatt tgcagcatta tgttcccaca aattctgtac tcagcatata  
2520  
cagtatagtt tatctgctct atttctgtct tatagaaatc atgaatgtgg tctccagaca  
2580  
gtgatgaaga aaatctgttg gtaattgata catgggttca agtgtcagag gtttaatttg  
2640  
aagtttatgt tcacacactg aaaacttagt ttttttggtg gtagatccat gtgcattgta  
2700  
gaatttggga caggcactat ttgcataaag tattaagtc aattttttaa ctaagcaaag  
2760  
gtacacgttg taacgggtgg gcattctgtga aaaagatgtc cttttcataa tatatgcaat  
2820  
atattccaga tgttttgaga gattacagaa gaggaggcct gcttcacttg cagataagtt  
2880  
tattataatt ctccagaaat gtgcaggatg tgcattagca aattgcactg tacttttcac  
2940



tccagcctgg gtgacagagc aagactcccg tctcgggggc ttaaaaaaaa aaaaatgctg  
 3000  
 tatctaaatg aatctgtgta attgggccca gatgtggggt tgctcagtat tagtagacaa  
 3060  
 ggtctttgtt cagacgatta ggtgcctaac tggcaaatgc cttagtttct taaaacgtat  
 3120  
 tttctgatgt ggctttacat ttcaaaagtg aacttgattc aacctgagaa aactgattaa  
 3180  
 aaaattagtt taaatttgcc agcagggaag taaaataatt atgggaagag tgtcttaagc  
 3240  
 ctaatattaa atcagttttg ttaaggggaa aactcaatag ttctgttact taggctgtta  
 3300  
 gatccaagtt gattttttgtg tctacagcta aattttgttt acaattaggc tatttttttaa  
 3360  
 tataggattt agaaaccaag ggtatgtggt taaaattac acttttttctt aacctgtcta  
 3420  
 gctgtcggaa aaggtaacag aagatggaac tcgaaatccc aatggaaaac ctaccagca  
 3480  
 aagaagcata gcttttagct ctaataattc tgtagcaaag ccaatacaaa aatcagctaa  
 3540  
 agctgccaca gaagaggcat cttcaagatc accaaaaata gatcagaaaa aaagtccata  
 3600  
 tggactgtgg atacctatct aaaagaagaa aactgatggc taagtttgca tgaaa  
 3655

&lt;210&gt; 5070

&lt;211&gt; 255

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5070

Met	Ser	Asn	Tyr	Ala	Asn	Asp	Met	Trp	Pro	Gly	Ser	Pro	Gln	Glu	Lys
1				5					10					15	
Asp	Ser	Pro	Ser	Thr	Ser	Arg	Ser	Gly	Gly	Ser	Ser	Arg	Leu	Ser	Ser
			20					25					30		
Arg	Ser	Arg	Ser	Arg	Ser	Phe	Ser	Arg	Ser	Ser	Arg	Ser	His	Ser	Arg
		35				40					45				
Val	Ser	Ser	Arg	Phe	Ser	Ser	Arg	Ser	Arg	Arg	Ser	Lys	Ser	Arg	Ser
	50				55						60				
Arg	Ser	Arg	Arg	Arg	His	Gln	Arg	Lys	Tyr	Arg	Arg	Tyr	Ser	Arg	Ser
65					70				75					80	
Tyr	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Arg	Tyr	Arg	Glu	Arg
			85					90						95	
Arg	Tyr	Gly	Phe	Thr	Arg	Arg	Tyr	Tyr	Arg	Ser	Pro	Ser	Arg	Tyr	Arg
		100						105					110		
Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Gly	Arg	Ser	Tyr	Cys	Gly
		115					120					125			
Arg	Ala	Tyr	Ala	Ile	Ala	Arg	Gly	Gln	Arg	Tyr	Tyr	Gly	Phe	Gly	Arg
	130					135					140				
Thr	Val	Tyr	Pro	Glu	Glu	His	Ser	Arg	Trp	Arg	Asp	Arg	Ser	Arg	Thr
145					150				155					160	
Arg	Ser	Arg	Ser	Arg	Thr	Pro	Phe	Arg	Leu	Ser	Glu	Lys	Gly	Gly	Trp
			165					170					175		
Val	Ile	Tyr	Leu	Ser	Ile	Cys	Gly	Asn	Val	Trp	Trp	Gln	Tyr	Met	Ser

			180					185					190				
Arg	Leu	Gly	Asn	Gln	Arg	Cys	Cys	Val	Val	Ser	Ile	Leu	Val	Pro	Leu		
		195					200						205				
Val	Pro	Glu	Ile	Phe	Leu	Glu	Glu	Arg	Gly	Arg	Thr	Leu	Pro	Val	Phe		
	210					215					220						
Lys	Trp	Thr	Ala	Phe	Ser	Leu	Gly	Leu	Lys	Val	Asn	Trp	Lys	Leu	Asn		
225					230					235					240		
Gly	Ser	Gly	Cys	Arg	Glu	Leu	Phe	Phe	Leu	Leu	Ala	Asp	Cys	Ser			
				245					250					255			

&lt;210&gt; 5071

&lt;211&gt; 2196

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5071

```

nttttttttt tttttttttt tttttttttt ttttttagaaa agcagggttta ttggtcgggc
60
tgctcaccag gacacagcaa cgtgagaggt tccccaagcc cacagaaaac tgcattcgcc
120
cacagctcag gccccttcag gccatcagca ccaagggacc ttgtcccaca atccccaacc
180
tccttcggca gaggggtctt cagccattca gaggagagaa gagaaccgag aaagggaaaa
240
ggaagaaaaa aaaaaaaaaa gcaaagcttt gtattgtata aaaggtttgt gtccccaggc
300
tcctccccc aatcccttaa aacaatgaac tgcagttcta aaaagcaggg cagagaaggt
360
aaggagcagg tggggggaag gaggaagctc tcggggcctc ccttcaggct gtgactgggg
420
agaggggctg ttcttgcttc tgacaaaccc cctttaatgg ggaggaacaa ggggactcgt
480
gtcttgagaa cctggctgtg tcttgagaac ccagtccgaa cagaatcagg cctctggact
540
gggagcaaca ctcccttcac ccccaaagat tcaggaaaag caccccaagg acaaggaaac
600
caatgaggtc tgggctagct ctgcagcttt aggatactag ctctagggaa ggattttttc
660
ctttttaaac agcgtctcac tctgttgctt aggatggagc acagaggcac cctcatagct
720
cactgcagcc tcaaactcct gggtctctgg gatectcccg cctcagcctc ccaagtagct
780
gagaccacag gcacgtgcc aatgctcct aggggaaggag cttgagaaga aactgccagg
840
agtgaaccag ggctggctgc tctgtgatgt tctctcccca cctccctcc agctctcaac
900
ttgggtggcag ggccggcacc ctgctctccc tcctaactcc cagcctgctg ctgccccctt
960
ctgggaccct aattttctgg actttgagaa atgggctgcc cctgggggtg cctccaagag
1020
cccatttgag ggatcgggtg gggtgacct ctctgtcttc ttgggatcat cgccttctca
1080
cactgtctc cctcttgatt ctgaaaaatg gtctgtctgc ccatggagaa ccacagtaag
1140

```

atagatttct catgcagcta gtgaggggac ttctctcttc acccatttcc accttctcct  
 1200  
 attttccttt tttttccttc tgttgagatg gagtctcact ctgtcaccca ggctggagtg  
 1260  
 cagtgtcgcg accttggctc actgcaacct ccacctccca ggttcaagca attctccac  
 1320  
 ctcagcctcc aaagtagctg ggattacagg catgcgcaac catgcccagc taatttttgt  
 1380  
 aatttttagta gagatgggtt ttcgcttagt agagatgggt gtttgccagg ctggtcccga  
 1440  
 actcctgacc tcaggtgatc cgtccacctc ggctcccaa agtgctgggg ttacaggctt  
 1500  
 aagccaccaa gcccggccga ccttcttcta tttttccatt ctctttcca aagccatggc  
 1560  
 catgcgctcc tgtgtacagg tgcataaaca catcagtgtg ccatccctca catgcatgtc  
 1620  
 gttccccacc cctccttccc agggcttctc ttggtccag cgttctctg ggaccctctg  
 1680  
 cagatacagc ctgtgctgga cccccagcca gggtaggggc tcattctgct ctgtcttccc  
 1740  
 cactgcctca gtttccccca aaagctgctt tcacgtcctt ctagtagggg gcctcccatg  
 1800  
 ggggcaagga tccccttttag gattcaatct ttctctttg ggcagttttg gctttgagtc  
 1860  
 cccagggat cagggtgaga atgaagaaga gctcagttag cggaatgaca gcagctgggt  
 1920  
 ggggtggtgtg gggagaggct gaggggaagg cagccccccc aggggggcct aaccgtggaa  
 1980  
 tcactgcaat ttctctgag atcccgactt ggacaaccag gacagggatt gaccattccc  
 2040  
 ttcccattcc actcggactg tgtccaagcg ggggctgtcc actgcggggg ctgcctcccc  
 2100  
 atcgggtcct aacagctcta agactgggag tggagttcct ggaggtgtgg ggaggggggc  
 2160  
 gtgttttcaa tttagaaaaa tctcagccag ctcgag  
 2196

&lt;210&gt; 5072

&lt;211&gt; 76

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5072

Met Glu Ser His Ser Val Thr Gln Ala Gly Val Gln Cys Arg Asp Leu  
 1 5 10 15  
 Gly Ser Leu Gln Pro Pro Pro Pro Arg Phe Lys Gln Phe Ser His Leu  
 20 25 30  
 Ser Leu Gln Ser Ser Trp Asp Tyr Arg His Ala Gln Pro Cys Pro Ala  
 35 40 45  
 Asn Phe Cys Asn Phe Ser Arg Asp Gly Phe Ser Leu Ser Arg Asp Gly  
 50 55 60  
 Cys Leu Pro Gly Trp Ser Arg Thr Pro Asp Leu Arg  
 65 70 75

&lt;210&gt; 5073

&lt;211&gt; 1712

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5073

ntgtggaagc agcttttctgg tgagcaggtg agctggagca aggacttccc agctgtggac  
60  
tctgtgctgg tgaagctcct ggaagtgatg gaaggaatgg acaaggagac gtttgagtgc  
120  
aagtttgggg aggaactaac attcaccact gtactgagtg accaacagggt ggtggagctg  
180  
atccctgggg gtgcaggcat cgtcgtggga tatggggacc gttctcgttt catccaactg  
240  
gtccagaagg cacggctaga ggagagcaag gagcaggtgg cagctatgca ggcaggtctg  
300  
ctgaagggtg taccacaggc tgtgctggac ttgctgacct ggcaagagtt ggagaagaaa  
360  
gtgtgtgggg atccagaggt cactgtggat gctctgcgca agctcaccgc gtttgaggac  
420  
ttcgagccat ctgactcgcg ggtgcagtat ttctgggagg cactgaacaa cttcaccaac  
480  
gaggaccgga gccgcttcct gcgctttgtc acgggcccga gtcgcctgcc agcacggna  
540  
tctacatcta cccagacaag ctgggctacg agaccancag acgcgctgcc cgagtcttcc  
600  
acttgctcca gcacctctt cctgccacac tatgccagtg ccaaggatat cgaggagaag  
660  
ctccgctatg cggcctacaa ctgcgtggcc atcgacactg acatgagccc ttgggaggag  
720  
tgaggcgtgc cgccggctgt gggaccagca agactgcacg tgtccctctt ggccttgccc  
780  
agggcgaaga caccttcctt gccctggttt ggctgacgtg ctcagcaaaa ccccatgtgc  
840  
cctgctcctg tgtgcagttg gggtaggggc agctggcatg gtcaggtaac actagtggcc  
900  
cagccccgca gaccacaaag ccctaccctg gctggggctt gcttcccgag gtatttcacc  
960  
tcttaagagg gaatcttcca caagcccagc acaagctgcc aggcctgagc tacttgaagg  
1020  
gggccaatcta ggtccccaac ccatggactt tgcctccatt ttcagctccg ccttttttct  
1080  
cctattttct ctctggcttt cttcagccat gactcacaac taaaaacata aaacactgga  
1140  
ggttagtgga ggcccctccc caagcagga gcttgggatg ggcagggagt gatagccaaa  
1200  
ctccttggtc acctgctcca agaaggaagc agtagctgag cacctgccct cacatactgc  
1260  
tcttttcccc tctccctcca caccagagat gtggtgagct ctgttcttct accaaccag  
1320  
tctcaacaca caaagtgcc ccaccttccc tgactcagaa cccacatcca ctcaatgtga  
1380  
actctactac cacgacctcc ccatattcct cacttctcca tcacctccag cctgactccc  
1440

tgtctgccct ttcaccccca agattttgca cagggttaagg ccagttatgg cctttttgaa  
 1500  
 atctgtaata gctccccttt ccccaactct aaagcctaga ccttaaactt gttcctagag  
 1560  
 ctatgcacac ccctgccccca gtttaccgtt cctccctcag ggcctccgtg acactccatg  
 1620  
 aaaagaagtt cttgcatacc ggaaagttga ataaatggat gaattcaaaa aaaaaaaaaa  
 1680  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa  
 1712

<210> 5074  
 <211> 240  
 <212> PRT  
 <213> Homo sapiens

<400> 5074  
 Xaa Trp Lys Gln Leu Ser Gly Glu Gln Val Ser Trp Ser Lys Asp Phe  
 1 5 10 15  
 Pro Ala Val Asp Ser Val Leu Val Lys Leu Leu Glu Val Met Glu Gly  
 20 25 30  
 Met Asp Lys Glu Thr Phe Glu Phe Lys Phe Gly Lys Glu Leu Thr Phe  
 35 40 45  
 Thr Thr Val Leu Ser Asp Gln Gln Val Val Glu Leu Ile Pro Gly Gly  
 50 55 60  
 Ala Gly Ile Val Val Gly Tyr Gly Asp Arg Ser Arg Phe Ile Gln Leu  
 65 70 75 80  
 Val Gln Lys Ala Arg Leu Glu Glu Ser Lys Glu Gln Val Ala Ala Met  
 85 90 95  
 Gln Ala Gly Leu Leu Lys Val Val Pro Gln Ala Val Leu Asp Leu Leu  
 100 105 110  
 Thr Trp Gln Glu Leu Glu Lys Lys Val Cys Gly Asp Pro Glu Val Thr  
 115 120 125  
 Val Asp Ala Leu Arg Lys Leu Thr Arg Phe Glu Asp Phe Glu Pro Ser  
 130 135 140  
 Asp Ser Arg Val Gln Tyr Phe Trp Glu Ala Leu Asn Asn Phe Thr Asn  
 145 150 155 160  
 Glu Asp Arg Ser Arg Phe Leu Arg Phe Val Thr Gly Arg Ser Arg Leu  
 165 170 175  
 Pro Ala Arg Xaa Ser Thr Ser Thr Gln Thr Ser Trp Ala Thr Arg Pro  
 180 185 190  
 Xaa Asp Ala Leu Pro Glu Ser Ser Thr Cys Ser Ser Thr Leu Phe Leu  
 195 200 205  
 Pro His Tyr Ala Ser Ala Lys Val Cys Glu Glu Lys Leu Arg Tyr Ala  
 210 215 220  
 Ala Tyr Asn Cys Val Ala Ile Asp Thr Asp Met Ser Pro Trp Glu Glu  
 225 230 235 240

<210> 5075  
 <211> 444  
 <212> DNA  
 <213> Homo sapiens

<400> 5075

tatggaagat ggactggaac aaggacccag ccagttaagg aggcttagaa tgctgggagc  
60  
ctgacctctg cctgtggtat cacctctgcc tgtgataaca gacaaaacca ggaagtgtat  
120  
ttactaaaaa gaataaacag tgctcgggtga atggtgagag gaccagagag gaaatgggaa  
180  
taagtaatag gcatgtggcc agcagaaaaa ggagccaata tataagaaag caacaagtaa  
240  
actgctcccc tcgatggcag tgggaagcct gctgggatgg tgggggatca ggaaacttct  
300  
ctagccctgg aacactgaga gagacagaag tgatcactgc tgtgttgga ctggggaggg  
360  
gtggggacca agtgaccgca gatcagaagt cactgaatat caacgccatg gagagagagc  
420  
tggctctttc gttaagagtt gcct  
444

<210> 5076

<211> 90

<212> PRT

<213> Homo sapiens

<400> 5076

Met	Gly	Ile	Ser	Asn	Arg	His	Val	Ala	Ser	Arg	Lys	Arg	Ser	Gln	Tyr
1				5					10					15	
Ile	Arg	Lys	Gln	Gln	Val	Asn	Cys	Ser	Pro	Arg	Trp	Gln	Trp	Glu	Ala
			20					25					30		
Cys	Trp	Asp	Gly	Gly	Gly	Ser	Gly	Asn	Phe	Ser	Ser	Pro	Gly	Thr	Leu
		35					40					45			
Arg	Glu	Thr	Glu	Val	Ile	Thr	Ala	Val	Leu	Glu	Leu	Gly	Arg	Gly	Gly
	50					55					60				
Asp	Gln	Val	Thr	Ala	Asp	Gln	Lys	Ser	Leu	Asn	Ile	Asn	Ala	Met	Glu
65					70				75					80	
Arg	Glu	Leu	Ala	Leu	Ser	Leu	Arg	Val	Ala						
				85					90						

<210> 5077

<211> 2352

<212> DNA

<213> Homo sapiens

<400> 5077

tttttttttt tttttttcaa atgcagcata ttttaatttg tttcaaataa agcaatatat  
60  
gtatatatat tttttcagaa aaacaccaga tgttaaattc tacaaaagcg catgtgtcct  
120  
cagcagatca tgtttgtctg attattaaga attctttttt gtaacattaa ctctctaaag  
180  
acaatcaatg gactgacatc actgctacaa cacagggtgc taactgagcc tctgatcttc  
240  
agccacatct tgatttttct aataatgagt aaatactgcc tggctaaaat gctgcaaagt  
300  
cttgatgaga gaaagcatca acagatcaag caaagccatg aaaattatga agcaagctag  
360

agctgattat tagaattagt aaaaatgatt aagagaggat gacacaacca tacgggattt  
420  
gtatattctg attgacactc ttttggcagc gaattgggtc agcacctcgg gcagggaacc  
480  
aaaactgagt gaaaactgct ctttttcctc ctagctcagg ccaccaacgt cacagccggg  
540  
actgagagaa ctgctgcatc tgtggaaact tctattctcg tggggcagag attgcactgt  
600  
gaaaccctac cgacactacc ccggaagggc ctggcctccg aggtgtctgc agcgtgctgc  
660  
cttcgccggg gcttttcaga atgggccggg gcctcggggg tcttcatctc caaggaagcc  
720  
tcttgatttt tggcaccgcc tttgtttttg ggccggaagc cgttgtgcgg ctgtcttctg  
780  
tgttcgtggc ggctgttgcc ctttcccagt ggctcggctt cattcccact gccctgcgac  
840  
ttggcaggcc catttagcct gttgttatga tactgtggat taaatctccg tctttggtta  
900  
gaagatccat tctgcttggt ggccggcatg gtctggtgag aggggtcggc ggtgctgggg  
960  
agactgctca ccattttggg gtttgccgct ttgccttcag agggcttatt gtgagtggat  
1020  
gattttcggg aaaagttact ctgtttccca gaggttgctg cgtgcgcatt cagcagaggc  
1080  
agcaggggagc tgcagggagt tcttgaggaa tagttgttct ttggatgtgt aatttctccg  
1140  
cagagcatga tttgggcctt cagctgttcg atgtcacagg aaaaccgggc agctttcccg  
1200  
agctcctcgt catatttacg ctgctgaca aagtgcctaa tttctgccct gagttcggcc  
1260  
agctgcatct ctgccatctg actggcaagg tcagtgagtc tctttagtte ttctgcttcc  
1320  
ttctgacgag cagtcaggat ttccatggct tcttctttaa ctttatccat ttctgccatt  
1380  
aatgaaactt ctttgtcaat gatgcagttg tgtaattcag caaaggcagc tttgatcttc  
1440  
ttcacggaac tatccacttc ttccttaatc atgacgcgat atctagttag agaaacgggtg  
1500  
cagcgttgca aatccttcac tgattttctca atatttgggc ctcttttctt tgccaactca  
1560  
tctggcttta tttcaagatg agctgcaggg gtattggact taacaggaga tgtttttgcc  
1620  
ttaggcttgc ttgggttaca aggetgctca gctgaccact gtaggccatc tgacctctct  
1680  
gttgttccat gtataggttt ggggttccca tctaaggata gtttctgttg cagtagtctg  
1740  
ttgccttctg tgacccacag aagtgccttt gaaggttcct caagtatcga gatctttttc  
1800  
tcacgaggga taagggtcgg tttttcgtaa gcagaatctg tggacgagct gtccttctcg  
1860  
cagccattca tggggccggt ttgaatctgt ggtggctgcg gctgcagggg ccctgcctca  
1920  
ggcctctcca ccttgtcttt agcatctttg ttgccttgat gctgcttgga cttgcttctt  
1980

tttcttttat tgttcttctt ttttctgtc atattccatt cttttagaac ttgaattgca  
 2040  
 ctgccatcca caaaggcttg cacggcttta tccacattaa aatcaaactg ttggagcacc  
 2100  
 aggactatatt cattattgct tttgttgga acaactgatc taactgcata gatcttttcc  
 2160  
 ttgacattca catgagtatt gagttcagcc atcttgcttc tagcggaata ggccctggga  
 2220  
 atccacagca atgttcctga aagcagcctg gtttctgaag agctctgaaa aatcaggcgc  
 2280  
 ggaaaaagtg ctggagctcg ggtcagccct tggaaaccg accaaccgg ggtgttccgc  
 2340  
 cgctcctct gc  
 2352

<210> 5078  
 <211> 558  
 <212> PRT  
 <213> Homo sapiens

<400> 5078  
 Met Ala Glu Leu Asn Thr His Val Asn Val Lys Glu Lys Ile Tyr Ala  
 1 5 10 15  
 Val Arg Ser Val Val Pro Asn Lys Ser Asn Asn Glu Ile Val Leu Val  
 20 25 30  
 Leu Gln Gln Phe Asp Phe Asn Val Asp Lys Ala Val Gln Ala Phe Val  
 35 40 45  
 Asp Gly Ser Ala Ile Gln Val Leu Lys Glu Trp Asn Met Thr Gly Lys  
 50 55 60  
 Lys Lys Asn Asn Lys Arg Lys Arg Ser Lys Ser Lys Gln His Gln Gly  
 65 70 75 80  
 Asn Lys Asp Ala Lys Asp Lys Val Glu Arg Pro Glu Ala Gly Pro Leu  
 85 90 95  
 Gln Pro Gln Pro Pro Gln Ile Gln Asn Gly Pro Met Asn Gly Cys Glu  
 100 105 110  
 Lys Asp Ser Ser Ser Thr Asp Ser Ala Asn Glu Lys Pro Ala Leu Ile  
 115 120 125  
 Pro Arg Glu Lys Lys Ile Ser Ile Leu Glu Glu Pro Ser Lys Ala Leu  
 130 135 140  
 Arg Gly Val Thr Glu Gly Asn Arg Leu Leu Gln Gln Lys Leu Ser Leu  
 145 150 155 160  
 Asp Gly Asn Pro Lys Pro Ile His Gly Thr Thr Glu Arg Ser Asp Gly  
 165 170 175  
 Leu Gln Trp Ser Ala Glu Gln Pro Cys Asn Pro Ser Lys Pro Lys Ala  
 180 185 190  
 Lys Thr Ser Pro Val Lys Ser Asn Thr Pro Ala Ala His Leu Glu Ile  
 195 200 205  
 Lys Pro Asp Glu Leu Ala Lys Lys Arg Gly Pro Asn Ile Glu Lys Ser  
 210 215 220  
 Val Lys Asp Leu Gln Arg Cys Thr Val Ser Leu Thr Arg Tyr Arg Val  
 225 230 235 240  
 Met Ile Lys Glu Glu Val Asp Ser Ser Val Lys Lys Ile Lys Ala Ala  
 245 250 255  
 Phe Ala Glu Leu His Asn Cys Ile Ile Asp Lys Glu Val Ser Leu Met



```
<210> 5079
<211> 1338
<212> DNA
<213> Homo sapiens
```

```

<400> 5079
ggcctccctc gttgccccag cctcgcgggc cgcctaactg ccccgttcca aggggtgccac
60
cggaccccg c tggagaggaa cttctccggt ggctgatttc atcaccaccc attcccgatt
120
ccacgtttcc ttttaagcggg gctggcgggag ccgcaaggcg gcaaggaact ggattgcat
180
tggtcagcac gtgcctcggg cggcggtaca attggctgag gcgctgggccc ttgggaagca
240
ttccccgacg ggattggtcg tcgctctcgc agagcccgcc tcccgcagta caagcggccc
300

```

ccgggtcggg tgggaggagg ggactccggg aggaggaaca tggcgggtggc ggacctcgct  
 360  
 ctcattcctg atgtggacat cgactccgac ggcgtcttca agtatgtgct gatccgagtc  
 420  
 cactcggtc cccgctccgg ggctccggct gcagagagca aggagatcgt gcgcggctac  
 480  
 aagtgggctg agtaccatgc ggacatctac gacaaagtgt cgggcgacat gcagaagcaa  
 540  
 ggctgcgact gtgagtgtct gggcggcggg cgcctctccc accagagtca ggacaagaag  
 600  
 attcacgtgt acggctattc catggtgagc cgcagccccg tcccgccttg ccggaggccc  
 660  
 cagtaccagc ttcgaggccc acctgagcct gctgcctga cccgtggccc cagctgagca  
 720  
 cgcaggcttc ctgggggttct cccagggtcg gcggcagagc cctccctcca gggcccattg  
 780  
 tgttcttgca tcccccatg gagcacacgc cagacctgag ggggtgggacg gacaccccca  
 840  
 ggcatggccg gctgtctcct ctccctgcct tgggaggcct tgctgggctc tagctgtcct  
 900  
 ccagcacttt gggccctggg ccccagagg cagtcagtac ctgggtggag ctgagagtcc  
 960  
 ccacctgtgc tcttcacaaa aaccaccagc agatgagacc cacgtgcgtc cctctgggcg  
 1020  
 cctcaggccc caggatccac catcaaggcc tatggctcctg cccagcacgc catttcaact  
 1080  
 gagaaaatca aagccaagta ccccgactac gaggtcacct gggctaacga cggctactga  
 1140  
 gcactcccag cccggggcct gctgcctcca gcagccactt cagagccccc gcctttgcct  
 1200  
 gcactcctct tgcagggtg gccctgcctg ctctgcggc agcctctggt gacgtgctgt  
 1260  
 ccaccaggcc ttggagacag gctagcctgg ccacagaatt aaacgtgttg ccacacaaaa  
 1320  
 aaaaaaaaaa aaaaaaaaaa  
 1338

&lt;210&gt; 5080

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5080

Gly	Ala	Gly	Pro	Trp	Glu	Ala	Phe	Pro	Asp	Gly	Ile	Gly	Arg	Arg	Ser
1			5					10					15		
Arg	Arg	Ala	Arg	Leu	Pro	Gln	Tyr	Lys	Arg	Pro	Pro	Gly	Arg	Val	Gly
		20						25				30			
Gly	Gly	Asp	Ser	Gly	Arg	Arg	Asn	Met	Ala	Val	Ala	Asp	Leu	Ala	Leu
		35					40					45			
Ile	Pro	Asp	Val	Asp	Ile	Asp	Ser	Asp	Gly	Val	Phe	Lys	Tyr	Val	Leu
	50					55					60				
Ile	Arg	Val	His	Ser	Ala	Pro	Arg	Ser	Gly	Ala	Pro	Ala	Ala	Glu	Ser
65					70					75				80	
Lys	Glu	Ile	Val	Arg	Gly	Tyr	Lys	Trp	Ala	Glu	Tyr	His	Ala	Asp	Ile

				85					90					95					
Tyr	Asp	Lys	Val	Ser	Gly	Asp	Met	Gln	Lys	Gln	Gly	Cys	Asp	Cys	Glu				
			100					105					110						
Cys	Leu	Gly	Gly	Gly	Arg	Ile	Ser	His	Gln	Ser	Gln	Asp	Lys	Lys	Ile				
		115					120					125							
His	Val	Tyr	Gly	Tyr	Ser	Met	Val	Ser	Arg	Ser	Pro	Val	Pro	Pro	Cys				
		130				135					140								
Arg	Arg	Pro	Gln	Tyr	Gln	Leu	Arg	Gly	Pro	Pro	Glu	Pro	Ala	Ala	Leu				
145					150				155						160				
Thr	Arg	Gly	Pro	Ser															
				165															

&lt;210&gt; 5081

&lt;211&gt; 561

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5081

```

nncggccggc ctgggctcgg gggetccggg ctctgggctc tgggtgcgcg gaccggggcca
60
ggctgcttga agacctcgcg acctgtgtca gcagagccgc cctgcaccac catgtgcatc
120
atcttcttta agtttgatcc tcgccctggt tccaaaaacg cgtacaggta accccctcgc
180
tctgcatctg ctgcgccttg cagggtcctg ggtgcccagc cagttctcat gccaccaag
240
ctgctgtgtg caggaagggt tgtggggccag gacggggctg cacaggcctg gcactgccct
300
ccaggacagg gtcactcagt gtgggatgct gtcagaatgc ctctcggggc ggggactcca
360
gtcaatgtac aaagacgtga agactcagcc acagaaggca gccacaggct catcttggca
420
gccaacaggg atgaattcta cagccgaccc tccaagttag ctgacttctg ggggaacaac
480
aacgagatcc tcagtgggct ggacatggag gaaggcaagg aaggaggcac atggctgggc
540
atcagcacac gtggcaagct g
561

```

&lt;210&gt; 5082

&lt;211&gt; 111

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5082

Met	Pro	Pro	Lys	Leu	Leu	Cys	Ala	Gly	Arg	Cys	Val	Gly	Gln	Asp	Gly				
1				5				10					15						
Ala	Ala	Gln	Ala	Trp	His	Cys	Pro	Pro	Gly	Gln	Gly	His	Ser	Val	Trp				
		20					25					30							
Asp	Ala	Val	Arg	Met	Pro	Leu	Gly	Ala	Gly	Thr	Pro	Val	Asn	Val	Gln				
		35				40					45								
Arg	Arg	Glu	Asp	Ser	Ala	Thr	Glu	Gly	Ser	His	Arg	Leu	Ile	Leu	Ala				
		50				55					60								
Ala	Asn	Arg	Asp	Glu	Phe	Tyr	Ser	Arg	Pro	Ser	Lys	Leu	Ala	Asp	Phe				

65					70					75					80
Trp	Gly	Asn	Asn	Asn	Glu	Ile	Leu	Ser	Gly	Leu	Asp	Met	Glu	Glu	Gly
				85					90					95	
Lys	Glu	Gly	Gly	Thr	Trp	Leu	Gly	Ile	Ser	Thr	Arg	Gly	Lys	Leu	
			100					105					110		

&lt;210&gt; 5083

&lt;211&gt; 1856

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5083

```

nnggccacta ggcacgggac agagcagtcg gtgacaggac agagcagtcg gtgacgggac
60
acagtgggtg gtgacgggac agagcggtcg gtgacagcct caagggcttc agcaccgcgc
120
ccatggcaga gccagaccga ctcagattca gactctgagg gaggagccgc tggtagagaa
180
gcagacatgg acttcctgcg gaacttattc tcccagacgc tcagcctggg cagccagaag
240
gagcgtctgc tggacgagct gaccttggaa ggggtggccc ggtacatgca gagcgaacgc
300
tgtcgcagag tcatctgttt ggtgggagct ggaatctcca catccgcagg catccccgac
360
tttcgctctc catccaccgg cctctatgac aacctagaga agtaccatct tccctaccca
420
gaggccatct ttgagatcag ctatttcaag aaacatccgg aacccttctt cgccctcgcc
480
aaggaactct atcctgggca gttcaagcca accatctgtc actacttcat gcgcctgctg
540
aaggacaagg ggctactcct gcgctgctac acgcagaaca tagataccct ggagcgaata
600
gccgggctgg aacaggagga cttggtggag gcgcacggca cttctacac atcacactgc
660
gtcagcgcca gctgcggca cgaatacccg ctaagctgga tgaaagagaa gatcttctct
720
gaggtgacgc ccaagtgtga agactgtcag agcctggtga agcctgatat cgtctttttt
780
ggtgagagcc tcccagcgcg tttcttctcc tgtatgcagt cagacttcct gaaggtggac
840
ctcctcctgg tcatgggtac ctcttgcag gtgcagccct ttgcctccct catcagcaag
900
gcacccctct ccacccctcg cctgctcatc aacaaggaga aagctggcca gtcggaccct
960
ttcctgggga tgattatggg cctcggagga ggcattggact ttgactccaa gaaggcctac
1020
agggacgtgg cctggctggg tgaatgcgac cagggtgcc tggcccttgc tgagctcctt
1080
ggatggaaga aggagctgga ggaccttgct cggaggaggc acgccagcat agatgccag
1140
tcggggggcg ggggtcccaa cccagcact tcagcttccc ccaagaagtc cccgccacct
1200
gccaaggacg aggccaggac aacagagagg gagaaacccc agtgacagct gcatctccca
1260

```

ggcgggatgt cgagctcctc agggacagct gagccccaac cgggcctggc cccctcttaa  
 1320  
 ccagcagttc ttgtctgggg agctcagaac atccccaat ctcttacagc tccctcccca  
 1380  
 aaactggggt cccagcaacc ctggcccca accccagcaa atctctaaca cctcctagag  
 1440  
 gccaaaggctt aaacaggcat ctctaccagc cccactgtct ctaaccactc ctgggctaag  
 1500  
 gagtaacctc cctcatctct aactgcccc acggggccag ggctaccca gaacttttaa  
 1560  
 ctcttccagg acaggagct tcgggcccc actctgtctc ctgcccccg gggcctgtgg  
 1620  
 ctaagtaaac catacctaac ctacccaggt gtgggtgtgg gcctctgaat ataaccaca  
 1680  
 cccagcgtag ggggagctct agccgggagg gctcccgagt ctctgccttc agtcccaaa  
 1740  
 gtgggtgggt ggcccccttc acgtgggacc cacttcccat gctggatggg cagaagacat  
 1800  
 tgcttattgg agacaaatta aaaacaaaa caactaaca aaaaaaaaa aaaaaa  
 1856

&lt;210&gt; 5084

&lt;211&gt; 396

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5084

Arg	Asp	Thr	Val	Val	Gly	Asp	Gly	Thr	Glu	Arg	Ser	Val	Thr	Ala	Ser
1				5					10					15	
Arg	Ala	Ser	Ala	Pro	Arg	Pro	Trp	Gln	Ser	Gln	Thr	Asp	Ser	Asp	Ser
			20					25					30		
Asp	Ser	Glu	Gly	Gly	Ala	Ala	Gly	Gly	Glu	Ala	Asp	Met	Asp	Phe	Leu
		35					40					45			
Arg	Asn	Leu	Phe	Ser	Gln	Thr	Leu	Ser	Leu	Gly	Ser	Gln	Lys	Glu	Arg
	50					55					60				
Leu	Leu	Asp	Glu	Leu	Thr	Leu	Glu	Gly	Val	Ala	Arg	Tyr	Met	Gln	Ser
65					70				75					80	
Glu	Arg	Cys	Arg	Arg	Val	Ile	Cys	Leu	Val	Gly	Ala	Gly	Ile	Ser	Thr
			85					90					95		
Ser	Ala	Gly	Ile	Pro	Asp	Phe	Arg	Ser	Pro	Ser	Thr	Gly	Leu	Tyr	Asp
		100					105						110		
Asn	Leu	Glu	Lys	Tyr	His	Leu	Pro	Tyr	Pro	Glu	Ala	Ile	Phe	Glu	Ile
		115				120						125			
Ser	Tyr	Phe	Lys	Lys	His	Pro	Glu	Pro	Phe	Phe	Ala	Leu	Ala	Lys	Glu
	130				135						140				
Leu	Tyr	Pro	Gly	Gln	Phe	Lys	Pro	Thr	Ile	Cys	His	Tyr	Phe	Met	Arg
145					150					155				160	
Leu	Leu	Lys	Asp	Lys	Gly	Leu	Leu	Leu	Arg	Cys	Tyr	Thr	Gln	Asn	Ile
			165					170					175		
Asp	Thr	Leu	Glu	Arg	Ile	Ala	Gly	Leu	Glu	Gln	Glu	Asp	Leu	Val	Glu
		180					185						190		
Ala	His	Gly	Thr	Phe	Tyr	Thr	Ser	His	Cys	Val	Ser	Ala	Ser	Cys	Arg
	195						200					205			
His	Glu	Tyr	Pro	Leu	Ser	Trp	Met	Lys	Glu	Lys	Ile	Phe	Ser	Glu	Val

210	215	220
Thr Pro Lys Cys Glu Asp	Cys Gln Ser Leu Val	Lys Pro Asp Ile Val
225	230	235
Phe Phe Gly Glu Ser Leu	Pro Ala Arg Phe Phe	Ser Cys Met Gln Ser
245	250	255
Asp Phe Leu Lys Val Asp	Leu Leu Leu Val Met	Gly Thr Ser Leu Gln
260	265	270
Val Gln Pro Phe Ala Ser	Leu Ile Ser Lys Ala	Pro Leu Ser Thr Pro
275	280	285
Arg Leu Leu Ile Asn Lys	Glu Lys Ala Gly Gln	Ser Asp Pro Phe Leu
290	295	300
Gly Met Ile Met Gly Leu	Gly Gly Gly Met Asp	Phe Asp Ser Lys Lys
305	310	315
Ala Tyr Arg Asp Val Ala	Trp Leu Gly Glu Cys	Asp Gln Gly Cys Leu
325	330	335
Ala Leu Ala Glu Leu Leu	Gly Trp Lys Lys Glu	Leu Glu Asp Leu Val
340	345	350
Arg Arg Glu His Ala Ser	Ile Asp Ala Gln Ser	Gly Ala Gly Val Pro
355	360	365
Asn Pro Ser Thr Ser Ala	Ser Pro Lys Lys Ser	Pro Pro Pro Ala Lys
370	375	380
Asp Glu Ala Arg Thr Thr	Glu Arg Glu Lys Pro	Gln
385	390	395

&lt;210&gt; 5085

&lt;211&gt; 2964

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5085

nactgcccacat ccccggttgtt cccactttttg ttcgcctctc ttcggccctc tactcaagag  
 60  
 ctccgtctcc gtctcgccct cctcgaagtc ctcgtcgcg ccccgcgacc caggctcgccc  
 120  
 tgaaatctag cccgtccgag cgcgagtgca acggccgcgg ccgcaccaag gccccctcag  
 180  
 accgtgcat ggggtgacagt gatgacgagt acgatcgaag gcgcagggac aagttcagaa  
 240  
 gagagcgcag cgactacgac cgttcccgcg agagagatga aagacgtcga ggggacgatt  
 300  
 ggaatgacag agagtgggac cgtggccgtg agcgccgtag tcggggtgaa tatcgggact  
 360  
 atgaccggaa tcggcgagag cgcttctcgc cacctcgcca cgaactcagc ccgccacaga  
 420  
 agcgcagtag gagagactgg gatgagcaca gctctgaccc ataccacagt ggctatgaga  
 480  
 tgccctatgc tgnngggggg tggggggcca acttatggcc cccctcagcc ctggggccac  
 540  
 cctgacgtcc acatcatgca gcaccatgtc ctgcctatcc aggccaggct gggcagcatt  
 600  
 gcagagattg acctgggtgt gccgcccgc gtgatgaaga ccttcaagga gtttctcctc  
 660  
 tccttgatg actcggtgga tgagacggag gccgtcaagc gctataatga ctacaagctg  
 720

gatttccgga ggcaacagat gcaggatttc ttcttgccgc acaaagatga ggagtgggtt  
780  
cggtctaagt accaccaga tgaggtgggg aagcgtcggc aggaggcccg gggggccctg  
840  
caaaaccgac tgaggttctt cctgtccctc atggagactg gctggtttga taaccttctc  
900  
ctggacatag acaaagctga tgccattgtc aagatgctgg atgcagccgt gattaagatg  
960  
gaaggaggca cggagaatga tcttcgcac ctggagcagg aggaggagga ggagcaggca  
1020  
ggaaagcctg gggagcccag caagaaagaa gaaggacggg ctggagcagg cctaggggac  
1080  
ggggagcgca aaaccaacga caaggatgag aagaaggaag acggcaagca ggctgagaat  
1140  
gacagtctta atgatgacaa aacaaagaag tcggagggtg atggggacaa ggaagagaag  
1200  
aaagaagact ccgagaagga agccaaaaag agtagcaaga agcgggaaccg gaagcacagt  
1260  
ggtgacgaca gctttgacga gggcagcgtg tcagagtctg agtcggagtc agagagcggc  
1320  
caggctgagg aggagaagga ggaggccgaa gaagcgtca aggagaagga gaagcccaag  
1380  
gaagaagaat gggagaagcc caaggacgcc gcggggctgg agtgcaagcc gcggccgctg  
1440  
cataagacct gctccctctt catgcgcaac atcgcgccc acatctccc ggccgagatc  
1500  
atctcccttt gtaaaaggta cccaggcttt atgcgggtgg cgctctcaga gcccagcca  
1560  
gagaggaggt ttttcgctg tggttgggtg accttcgacc gcagtgttaa cattaaagag  
1620  
atctgttggga acctgcagaa catcgtctc cgggagtgtg agctgagccc tgggtgtgaac  
1680  
agggacctga cccggcgctg tcgcaacatc aacggcatca cccagcaca gcagattgtg  
1740  
cgcaacgaca tcaagctggc ggccaagctg atccacacgc tggatgacag gacacagctt  
1800  
tgggcctcag aaccagggac gcctccctg cccacgagcc tgccctcgca aaaccgac  
1860  
ttgaagaata tcaccgacta cctgatcgag gaagtaagcg ccgaggagga ggagctgctg  
1920  
gggagcagcg ggggcgctcc tcttgaggag cctcctaagg aagggaacc ggagagatc  
1980  
aacgtggagc gggatgagaa gttgattaag gtcttggaca agctcctcct ttacctgcgc  
2040  
atcgtgcatt ccttggatta ttacaacacc tgtgagtacc ccaacgagga cgagatgcc  
2100  
aatcgctgtg ggatcatcca cgttcggggg cccatgccac ccaaccgcat cagtcacggg  
2160  
gaagtgtctg agtggcagaa gacttttgag gagaagctca cgccgttgct gagtgtgcgg  
2220  
gagtcactct cagaggaaga ggcccagaag atggggcgca aagaccaga gcaggaagtg  
2280  
gagaagtctg tcacctcaa cacgcaggaa ctgggcaagg ataagtggct gtgtcctctc  
2340

agtggcaaga aattcaaggg tcctgagttt gtgcgcaaac atatcttcaa caagcatgca  
 2400  
 gagaaaattg aggaagtgaa aaaggaagtc gcgttttttta acaacttcct cactgatgct  
 2460  
 aagcgcccag ctctgcctga gatcaagcca gccagccac ctggccccgc ccagatactc  
 2520  
 cccccagggt tgaccccagg actcccctac ccacaccaga ctccccaggg cctgatgccc  
 2580  
 tatggtcagc cccggcccc gatcttgggc tatggagctg gtgctgtccg ccctgcagtc  
 2640  
 cccacaggag gccctccata ccccatgcc ccgtatggtg ctggctgagg gaactatgat  
 2700  
 gccttccgag gccagggagg ttatcctggg aaacctcgca acaggatggt tcgtggagac  
 2760  
 ccaagggcca ttgtggaata tcgggacctg gatgccccag acgatgttga tttcttttga  
 2820  
 gccgtcccc gtctctcagt cctgtatcat ccatacttgt actaccttgt cctatgaagc  
 2880  
 tctgagaatt tttgtacga tcagccttac tgctaataaaa agcacttcca cagggaaaaa  
 2940  
 aaaaaaaaaa aaaaaaagtc gacg  
 2964

&lt;210&gt; 5086

&lt;211&gt; 792

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5086

Met	Ser	Thr	Ala	Leu	Thr	His	Thr	Thr	Val	Ala	Met	Arg	Cys	Pro	Met
1				5					10					15	
Leu	Xaa	Gly	Gly	Gly	Gly	Pro	Thr	Tyr	Gly	Pro	Pro	Gln	Pro	Trp	Gly
			20					25				30			
His	Pro	Asp	Val	His	Ile	Met	Gln	His	His	Val	Leu	Pro	Ile	Gln	Ala
		35					40				45				
Arg	Leu	Gly	Ser	Ile	Ala	Glu	Ile	Asp	Leu	Gly	Val	Pro	Pro	Pro	Val
		50				55					60				
Met	Lys	Thr	Phe	Lys	Glu	Phe	Leu	Leu	Ser	Leu	Asp	Asp	Ser	Val	Asp
65					70					75				80	
Glu	Thr	Glu	Ala	Val	Lys	Arg	Tyr	Asn	Asp	Tyr	Lys	Leu	Asp	Phe	Arg
				85				90						95	
Arg	Gln	Gln	Met	Gln	Asp	Phe	Phe	Leu	Ala	His	Lys	Asp	Glu	Glu	Trp
			100					105					110		
Phe	Arg	Ser	Lys	Tyr	His	Pro	Asp	Glu	Val	Gly	Lys	Arg	Arg	Gln	Glu
		115					120					125			
Ala	Arg	Gly	Ala	Leu	Gln	Asn	Arg	Leu	Arg	Val	Phe	Leu	Ser	Leu	Met
		130				135					140				
Glu	Thr	Gly	Trp	Phe	Asp	Asn	Leu	Leu	Leu	Asp	Ile	Asp	Lys	Ala	Asp
145					150					155				160	
Ala	Ile	Val	Lys	Met	Leu	Asp	Ala	Ala	Val	Ile	Lys	Met	Glu	Gly	Gly
			165					170					175		
Thr	Glu	Asn	Asp	Leu	Arg	Ile	Leu	Glu	Gln	Glu	Glu	Glu	Glu	Glu	Gln
		180					185					190			
Ala	Gly	Lys	Pro	Gly	Glu	Pro	Ser	Lys	Lys	Glu	Glu	Gly	Arg	Ala	Gly



195	200	205
Ala Gly Leu Gly Asp Gly Glu Arg Lys Thr Asn Asp Lys Asp Glu Lys		
210	215	220
Lys Glu Asp Gly Lys Gln Ala Glu Asn Asp Ser Ser Asn Asp Asp Lys		
225	230	235
Thr Lys Lys Ser Glu Gly Asp Gly Asp Lys Glu Glu Lys Lys Glu Asp		
245	250	255
Ser Glu Lys Glu Ala Lys Lys Ser Ser Lys Lys Arg Asn Arg Lys His		
260	265	270
Ser Gly Asp Asp Ser Phe Asp Glu Gly Ser Val Ser Glu Ser Glu Ser		
275	280	285
Glu Ser Glu Ser Gly Gln Ala Glu Glu Glu Lys Glu Glu Ala Glu Glu		
290	295	300
Ala Leu Lys Glu Lys Glu Lys Pro Lys Glu Glu Glu Trp Glu Lys Pro		
305	310	315
Lys Asp Ala Ala Gly Leu Glu Cys Lys Pro Arg Pro Leu His Lys Thr		
325	330	335
Cys Ser Leu Phe Met Arg Asn Ile Ala Pro Asn Ile Ser Arg Ala Glu		
340	345	350
Ile Ile Ser Leu Cys Lys Arg Tyr Pro Gly Phe Met Arg Val Ala Leu		
355	360	365
Ser Glu Pro Gln Pro Glu Arg Arg Phe Phe Arg Arg Gly Trp Val Thr		
370	375	380
Phe Asp Arg Ser Val Asn Ile Lys Glu Ile Cys Trp Asn Leu Gln Asn		
385	390	395
Ile Arg Leu Arg Glu Cys Glu Leu Ser Pro Gly Val Asn Arg Asp Leu		
405	410	415
Thr Arg Arg Val Arg Asn Ile Asn Gly Ile Thr Gln His Lys Gln Ile		
420	425	430
Val Arg Asn Asp Ile Lys Leu Ala Ala Lys Leu Ile His Thr Leu Asp		
435	440	445
Asp Arg Thr Gln Leu Trp Ala Ser Glu Pro Gly Thr Pro Pro Leu Pro		
450	455	460
Thr Ser Leu Pro Ser Gln Asn Pro Ile Leu Lys Asn Ile Thr Asp Tyr		
465	470	475
Leu Ile Glu Glu Val Ser Ala Glu Glu Glu Leu Leu Gly Ser Ser		
485	490	495
Gly Gly Ala Pro Glu Glu Pro Pro Lys Glu Gly Asn Pro Ala Glu		
500	505	510
Ile Asn Val Glu Arg Asp Glu Lys Leu Ile Lys Val Leu Asp Lys Leu		
515	520	525
Leu Leu Tyr Leu Arg Ile Val His Ser Leu Asp Tyr Tyr Asn Thr Cys		
530	535	540
Glu Tyr Pro Asn Glu Asp Glu Met Pro Asn Arg Cys Gly Ile Ile His		
545	550	555
Val Arg Gly Pro Met Pro Pro Asn Arg Ile Ser His Gly Glu Val Leu		
565	570	575
Glu Trp Gln Lys Thr Phe Glu Glu Lys Leu Thr Pro Leu Leu Ser Val		
580	585	590
Arg Glu Ser Leu Ser Glu Glu Glu Ala Gln Lys Met Gly Arg Lys Asp		
595	600	605
Pro Glu Gln Glu Val Glu Lys Phe Val Thr Ser Asn Thr Gln Glu Leu		
610	615	620
Gly Lys Asp Lys Trp Leu Cys Pro Leu Ser Gly Lys Lys Phe Lys Gly		

```
<210> 5087
<211> 4949
<212> DNA
<213> Homo sapiens
```

```

<400> 5087
gcctaactgc cccgttccaa ggggtgccacc ggaccccgtt ggagaggaac ttctccgttg
60
gctgatttca tcaccaccca ttcccgatcc cacgttttct ttaagcgggt ctggcggacg
120
caaggcgtca aggaactgga ttgctgattgg tcagcacgtg cctcggtcgg cggtaacaatt
180
ggctgaggcg ctggggccttg ggaagcattc cccgacggga ttggctcgtcg ctctcgcaga
240
gcccgcctcc cgcagtacaa gcggcccccg ggtcgggttg gaggagggga ctccgggagg
300
aggaacatgg cggtggcgga cctcgtcttc attcctgatg tggacatcga ctccgacggc
360
gtcttcaagt atgtgctgat ccgagtcac tcggctcccc gctccggggc tccggctgca
420
gagagcaagg agatcgtgcg cggctacaag tgggctgagt accatgcgga catctacgac
480
aaagtgtcgg gcgacatgca gaagcaaggc tgcgactgtg agtgtctggg cggcggggcg
540
atctcccacc agagtcagga caagaagatt cacgtgtacg gctattccat ggcctatggt
600
cctgcccagc acgccatttc aactgagaaa atcaaagcca agtaccgccg ctacgaggtc
660
acctgggcta acgacggcta ctgagcactc ccagcccggg gcctgctgcc tccagcagcc
720
acttcagagc cccgcctttt gcctgcactc ctcttgcaagg gctggccctg cctgctcctg
780

```

cggcagcctc tggtagcgtg ctgtccacca ggccttggag acaggctagc ctggccacag  
840  
aattaaacgt gttgccacac ctgccggctt ctgaactctg tccttggctt cctgcaccct  
900  
gcgtcaccac ctccgggggc ccccagaccc taactaaagc agggaccctg tatctggcac  
960  
cggacagcac ctggctgctc aggacgaatg aatgacggcg tgatcctcca cagcctgact  
1020  
taaaggcacc ctgtgtggcc gcaactgctc ctctggcca accatgcctc tgtccagcca  
1080  
cctgctgccc gccttggctc tgttcctggg agccttggcc aggcctgtg caacttcgtg  
1140  
tgtgactgca gggactgctc agatgaggcc cagtgtggtt accacggggc ctgcccacc  
1200  
ctgggcgccc ccttcgcctg tgacttcgag caggaccct gcggctggcg ggacattagt  
1260  
acctcaggct acagctggct ccgagacagg gcaggggccc cactggaggg tcctgggct  
1320  
cactcagacc acacactggg caccgacttg ggtgaggcca gggcaagtct ctgtgcgccc  
1380  
ctgtcccaat accctccttg ctccctgccc cgtctcctga cctctcacct gcgccaggct  
1440  
ggtacatggc cgttgaacc caccgaggga aagaggcatc caccgcagcc ctgcgctcgc  
1500  
caaccctgcg agaggcagcc tcctcttgca agctgaggct ctggtaccac gcggcctctg  
1560  
gaggtgcacc ctggaccccc aaggctcgtg gggggtgccc aaggggaggg cgggtgggca  
1620  
gctggggaca agcagggccg cagctgccct gggacccctg acattgcaga tgtggctgaa  
1680  
ctgcgggtgg agctgacca tggcgagag accctgaccc tgtggcagag cacaggggcc  
1740  
tggnggccct ggnnctggca ggagtggca gtgaccacag gccgcatccg gggtgacttc  
1800  
cgagtacct tctctgccac ccgaaatgcc acccacaggg gcgctgtggc tctagatgac  
1860  
ctagagttct gggactgtgg tctgcccacc cccaggcca actgtcccc gggacaccac  
1920  
cactgccaga acaaggtctg cgtggagccc cagcagctgt gcgacgggga agacaactgc  
1980  
ggggacctgt ctgatgagaa cccactcacc tgtggccgcc acatagccac cgactttgag  
2040  
acaggcctgg gcccatggaa ccgctcgga ggctggctcc ggaaccaccg tgctgggtgt  
2100  
cctgagcgc cctcctggcc acgccgtgac cacagccgga acagtgcann caggctggc  
2160  
ttctatcagt acctgagtgg gtctgaggct ggctgcctcc agctgttct gcagactctg  
2220  
gggcccggcg cccccgggc cccgctcctg ctgcggaggc gccgagggga gctggggacc  
2280  
gcctgggtcc gagaccgtgt tgacatccag agcgctacc ccttcagat cctcctggcc  
2340  
gggcagacag gcccggggg cgctgtgggt ctggacgacc tcctcctgtc tgaccactgc  
2400

agaccagtct cggaggtgtc caccctgcag ccgctgcctc ctgggccccg ggccccagcc  
2460  
ccccagcccc tgccgccccag ctgcgcgctc caggattcct gcaagcaggg gcatcttgcc  
2520  
tgcggggacc tgtgtgtgcc cccggaacaa ctgtgtgact tcgaggagca gtgcgcaggg  
2580  
ggcgaggacg agcaggcctg tggcaccaca gactttgagt cccccagggc tgggggctgg  
2640  
gaggacgcca gcgtggggcg gctgcagtgg cggcgtgtct cagcccagga gagccagggg  
2700  
tccagtgcag ctgctgctgg gcacttcctg tctctgcagc gggcctgggg gcagctaggg  
2760  
gctgaggccc gggtcctcac accctcctt ggcccttctg gccccagctg tgaactccac  
2820  
ctggcttatt atttacagag ccagccccga gctggatttg tcggtttggg ggacttggat  
2880  
ggccctgacc agcagnggag ctgggggtgga caacgtgacc ctgagggact gtagccccac  
2940  
agtgaccacc gagagagaca gaggttcctg ctgcccattc tcaactccac ctgggtgctc  
3000  
cccttacact cctccaggga ccccgagct tccaccttct cagggtctct gagggggagg  
3060  
ggagaaggtg tgtgacgcca cctggcccca cccccagagg tctcctgtaa ctttgagcgg  
3120  
gacacatgca gctggtaccc aggccacctc tcagacacac actggcgctg ggtggagagc  
3180  
cgcgggccctg accacgacca caccacaggc caaggccact ttgtgctcct ggacccaca  
3240  
gacccccctgg cctggggcca cagtgcacac ctgctctcca ggccccaggt gccagcagca  
3300  
cccacggagt gtctcagctt ctggtaccac ctccatgggc ccagattgg gactctgcgc  
3360  
ctagccatga gacgggaagg ggaggagaca cacctgtggg cgcggtcagg caccagggc  
3420  
aaccgctggc acgaggcctg ggccaccctt tcccaccagc ctggctcca tgcccagtac  
3480  
cagctgctgt tcgagggcct cggggacgga taccacggca ccatggcgct ggacgatgtg  
3540  
gccgtgcggc cgggccccct ctggggccct aattactgct cctttgagga ctgagactgc  
3600  
ggcttctccc ctggaggcca aggtctctgg aggcggcagg ccaatgcctc gggccatgct  
3660  
gcctggggcc cccaacaga ccataccact gagacagccc aagggcacta catggtggtg  
3720  
gacacaagcc cagacgcact accccggggc cagacggcct ccctgacctc caaggagcac  
3780  
aggccccctg cccagcctgc ttgtctgacc ttctggtacc acgggagcct ccgcagccca  
3840  
ggcaccctgc gggctctacct ggaggagcgc gggaggcacc aggtgctcag cctcagtgcc  
3900  
cacggcgggc ttgcctggcg cctgggcagc atggacgtgc aggcagcgc agcctggagg  
3960  
ngttcctgtg attttgagtc tggcctgtgt ggctggagcc acctggccgg gcccggcctg  
4020

ggcgataca gctgggactg gggcggggga gccacccct ctcgttacc ccagccccct  
 4080  
 gtggaccaca ccctgggcac agaggcaggc cactttgcct tctttgaaac tggcgtgctg  
 4140  
 ggccccgggg gccgggccc ctggctgcgc agcgagcctc tgccggccac ccagcctcc  
 4200  
 tgcctccgct tctggtacca catgggtttt cctgagcact totacaaggg ggagctgaag  
 4260  
 gtactgctgc acagtgtca gggccagctg gctgtgtggg gcgcaggcgg gcatcggcgg  
 4320  
 caccagtggc tggaggccca ggtggaggta gccagtgcc aggagtcca gatcgtgttt  
 4380  
 gaagccactc tgggcggcca gccagccctg gggccattg ccctggatga cgtggagtat  
 4440  
 ctggctgggc agcattgcc gcagcctgcc ccagcccg ggaacacagc cgcacccggg  
 4500  
 tctgtgccag ctgtggttg cagtgcctc ctattgtca tgctcctggt gctgtgtgga  
 4560  
 cttgggggac ggcgctggct gcagaagaag gggagctgcc ccttccagag caacacagag  
 4620  
 gccacagccc ctggctttga caacatcctt ttcaatgcgg atggtgtcac cctcccggca  
 4680  
 tctgtcacca gtgatccgta gaccaccca gacaaggccc cgttccctca cgtgacatcc  
 4740  
 agcacttggc cagaccctag ccagggaccg gacacctgcc ccgcccaggc tgggacaggc  
 4800  
 tgcaggtctc aggatatgt gaggcctggg cgttccctgc cctgtgtgta ctctgttgc  
 4860  
 ctgtgaataa acaccctggc ccatgagggc agccccaaaa aaaaaaaaaa aaaaaaaaaa  
 4920  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 4949

&lt;210&gt; 5088

&lt;211&gt; 465

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5088

Gly	Ser	Gly	Thr	Thr	Arg	Pro	Leu	Glu	Val	His	Pro	Gly	Pro	Pro	Arg
1				5					10					15	
Leu	Val	Gly	Gly	Ala	Gln	Gly	Glu	Gly	Gly	Trp	Ala	Ala	Gly	Asp	Lys
		20						25					30		
Gln	Gly	Arg	Ser	Cys	Pro	Gly	Thr	Pro	Asp	Ile	Ala	Asp	Val	Ala	Glu
		35					40					45			
Leu	Arg	Val	Glu	Leu	Thr	His	Gly	Ala	Glu	Thr	Leu	Thr	Leu	Trp	Gln
	50					55					60				
Ser	Thr	Gly	Pro	Trp	Xaa	Pro	Trp	Xaa	Trp	Gln	Glu	Leu	Ala	Val	Thr
65					70					75				80	
Thr	Gly	Arg	Ile	Arg	Gly	Asp	Phe	Arg	Val	Thr	Phe	Ser	Ala	Thr	Arg
				85					90					95	
Asn	Ala	Thr	His	Arg	Gly	Ala	Val	Ala	Leu	Asp	Asp	Leu	Glu	Phe	Trp
			100					105					110		
Asp	Cys	Gly	Leu	Pro	Thr	Pro	Gln	Ala	Asn	Cys	Pro	Pro	Gly	His	His

```

      115              120              125
His  Cys  Gln  Asn  Lys  Val  Cys  Val  Glu  Pro  Gln  Gln  Leu  Cys  Asp  Gly
      130              135              140
Glu  Asp  Asn  Cys  Gly  Asp  Leu  Ser  Asp  Glu  Asn  Pro  Leu  Thr  Cys  Gly
145              150              155              160
Arg  His  Ile  Ala  Thr  Asp  Phe  Glu  Thr  Gly  Leu  Gly  Pro  Trp  Asn  Arg
      165              170              175
Ser  Glu  Gly  Trp  Ser  Arg  Asn  His  Arg  Ala  Gly  Gly  Pro  Glu  Arg  Pro
      180              185              190
Ser  Trp  Pro  Arg  Arg  Asp  His  Ser  Arg  Asn  Ser  Ala  Xaa  Arg  Leu  Val
195              200              205
Phe  Tyr  Gln  Tyr  Leu  Ser  Gly  Ser  Glu  Ala  Gly  Cys  Leu  Gln  Leu  Phe
210              215              220
Leu  Gln  Thr  Leu  Gly  Pro  Gly  Ala  Pro  Arg  Ala  Pro  Val  Leu  Leu  Arg
225              230              235              240
Arg  Arg  Arg  Gly  Glu  Leu  Gly  Thr  Ala  Trp  Val  Arg  Asp  Arg  Val  Asp
      245              250              255
Ile  Gln  Ser  Ala  Tyr  Pro  Phe  Gln  Ile  Leu  Leu  Ala  Gly  Gln  Thr  Gly
260              265              270
Pro  Gly  Gly  Val  Val  Gly  Leu  Asp  Asp  Leu  Ile  Leu  Ser  Asp  His  Cys
275              280              285
Arg  Pro  Val  Ser  Glu  Val  Ser  Thr  Leu  Gln  Pro  Leu  Pro  Pro  Gly  Pro
290              295              300
Arg  Ala  Pro  Ala  Pro  Gln  Pro  Leu  Pro  Pro  Ser  Ser  Arg  Leu  Gln  Asp
305              310              315              320
Ser  Cys  Lys  Gln  Gly  His  Leu  Ala  Cys  Gly  Asp  Leu  Cys  Val  Pro  Pro
      325              330              335
Glu  Gln  Leu  Cys  Asp  Phe  Glu  Glu  Gln  Cys  Ala  Gly  Gly  Glu  Asp  Glu
      340              345              350
Gln  Ala  Cys  Gly  Thr  Thr  Asp  Phe  Glu  Ser  Pro  Glu  Ala  Gly  Gly  Trp
      355              360              365
Glu  Asp  Ala  Ser  Val  Gly  Arg  Leu  Gln  Trp  Arg  Arg  Val  Ser  Ala  Gln
370              375              380
Glu  Ser  Gln  Gly  Ser  Ser  Ala  Ala  Ala  Ala  Gly  His  Phe  Leu  Ser  Leu
385              390              395              400
Gln  Arg  Ala  Trp  Gly  Gln  Leu  Gly  Ala  Glu  Ala  Arg  Val  Leu  Thr  Pro
      405              410              415
Leu  Leu  Gly  Pro  Ser  Gly  Pro  Ser  Cys  Glu  Leu  His  Leu  Ala  Tyr  Tyr
      420              425              430
Leu  Gln  Ser  Gln  Pro  Arg  Ala  Gly  Phe  Val  Gly  Leu  Val  Asp  Leu  Asp
      435              440              445
Gly  Pro  Asp  Gln  Gln  Xaa  Ser  Trp  Gly  Gly  Gln  Arg  Asp  Pro  Glu  Gly
450              455              460
Leu
465

```

&lt;210&gt; 5089

&lt;211&gt; 793

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5089

nctgaccaca tctccgacga tccccacacc ttcaaccacc agaacttgac ccactgttcc

60

cgccatggct cagggcctaa catcatcctc acaggggact cctctccagg tttctctaag  
 120  
 gagattgcag cagccctggc cggagtgcct ggctttgagg tgtcagcagc tggattggag  
 180  
 ctagggccttg ggctagaaga tgagctgcgc atggagccac tgggcctgga agggctaaac  
 240  
 atgctgagtg acccctgtgc cctgctgcct gatcctgctg tggaggagtc attccgcagt  
 300  
 gaccggctcc aatgagggca cctcatcacc atccctcttc ttggcccat cccccaccac  
 360  
 cattcctttc ctcccttccc cctggcaggt agagactcta ctctctgtcc ccagatcctc  
 420  
 tttctagcat gaatgaagga tgccaagaat gagaaaaagc aaggggtttg tccaggtggc  
 480  
 ccctgaattc tgcgcaaggg atgggcctgg gggaaactcaa gggagggcct aaagcacttg  
 540  
 taactttgaa ccgtctgtct ggaggtcaga gcctgttgga aagcaggggt agaggggagc  
 600  
 cctggaagca gggcttttcc ggatgcctag gggtagggcag tgccagcccc tcctcaccac  
 660  
 tcttccccctt gcagtggagg agagagccag agtggatact attttttatt aaatatatta  
 720  
 ttatatgtta ataaaaaaaa catatcaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 780  
 aaaaaaaaaa aaa  
 793

&lt;210&gt; 5090

&lt;211&gt; 104

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5090

Xaa	Asp	His	Ile	Ser	Asp	Asp	Pro	His	Thr	Phe	Asn	His	Gln	Asn	Leu
1				5					10					15	
Thr	His	Cys	Ser	Arg	His	Gly	Ser	Gly	Pro	Asn	Ile	Ile	Leu	Thr	Gly
			20					25					30		
Asp	Ser	Ser	Pro	Gly	Phe	Ser	Lys	Glu	Ile	Ala	Ala	Ala	Leu	Ala	Gly
		35					40					45			
Val	Pro	Gly	Phe	Glu	Val	Ser	Ala	Ala	Gly	Leu	Glu	Leu	Gly	Leu	Gly
	50					55					60				
Leu	Glu	Asp	Glu	Leu	Arg	Met	Glu	Pro	Leu	Gly	Leu	Glu	Gly	Leu	Asn
65					70					75					80
Met	Leu	Ser	Asp	Pro	Cys	Ala	Leu	Leu	Pro	Asp	Pro	Ala	Val	Glu	Glu
				85					90					95	
Ser	Phe	Arg	Ser	Asp	Arg	Leu	Gln								
						100									

&lt;210&gt; 5091

&lt;211&gt; 3150

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5091

ggactcaggt cctcggggat accatcccc gacctacct tccacctacc gcagcctgct  
60  
agccttttcg ggagaaaagg catccttacc tctgggtgaa ggtctcgggg cctccccctc  
120  
tgcacccgga cctctcccc atcccagcct cccatgccaa ggcccgcctt gtcagtcact  
180  
tccttttgtc atcggccttg caaacgggag agaaaacaga gcttcatggg aaacagcggc  
240  
aacagttggt ccatacacc ttccccaag ttggagctag gcctggggcc ccagcccatg  
300  
gcgccccggg agctccctac ctgctccatc tgccctggaga ggttgcgoga ccccatctcg  
360  
ctggactgtg gccacgactt ctgcatacgg tgcttcagca cacaccgtct cccgggctgt  
420  
gagccgcct gctgtcctga gtgccggaag atatgcaagc agaagagggg cctccggagc  
480  
ctgggcgaga agatgaagct cctgccgcag cgccgctgc cccctgcact gcaggagacg  
540  
tgtcctgtga gggcgagacc gctgctgctg gttcgcatca atgcctctgg gggcctcatc  
600  
cttaggatgg gggccatcaa ccgctgcctg aagcacctc tggccaggga cccccagtc  
660  
tgccctctcg ctgtcctggg ggagcagcac tcagggaagt ccttctctct caaccatttg  
720  
cttcagggct tgccgggcct ggagtctggt gagggcgggc ggccaagagg aggagaggca  
780  
tccttcaggg gctgcagggt gggcgccaat ggccctcgcc ggggcatatg gatgtggagc  
840  
cacccttct tgctggggaa agaagggaag aagggtggcg tgttctctgt ggacacaggg  
900  
gatgccatga gccctgagct gagcaggga acaaggatca agctctgtgc tctcaccacg  
960  
atgctgagct cctaccagat cctcagcacc tcccaggagc tgaaggatac agacctggac  
1020  
tatctggaga tgtttgtcca cgtggccgag gtgatgggca agcattatgg gatggtgcca  
1080  
atccagcatc tggacctctt agttcgtgac tcatccacc ccaacaaggc agggcagggg  
1140  
catgtaggca acatcttcca gagattgtct ggcagatacc ccaagggtgca ggagctgctg  
1200  
caagggaagc gagcccggtg ctgcctcttg cctgccccag ggaggcgggc gatgaacaa  
1260  
ggccatgcaa gccctggtgg tgacacagat gatgacttcc gccaccttct gggggcctac  
1320  
gtctcagatg tgctgagtgc ggccccccag cacgctaaga gccgctgcca ggggtactgg  
1380  
aacgaggggc gcgccgtggc caggggggac agacgcctac tcacggggca gcagctagct  
1440  
caggaaatca agaacctctc aggatggatg gggaggacag ggcccggttt cacctctccg  
1500  
gatgagatgg ctgctcagct gcacgacctg aggaagggtg aagctgccaa gagggagttc  
1560  
gaggagtatg tgaggcagca ggacgtagcc accaagcgca tattctctgc gctgcgggtc  
1620



ctgccagaca ccatgcggaa cctcctctcc acccagaaag atgccattct ggcccgccat  
1680  
ggtgtggcct tactctgcaa ggggagagat cagaccttgg aggcactgga agctgagctg  
1740  
caggccacgg ccaaggcctt catggactcc tacacgatgc gcttctgtgg ccacctagct  
1800  
gctgtggggg gtgctgtggg ggccgggctc atgggcctgg cagggggcgt ggtgggtgct  
1860  
ggcatggcag cagctgcact ggctgcagag gctgggatgg tggctgctgg agctgccgtg  
1920  
ggggccacag gggccgctgt ggttgggggt ggcgtgggtg ctgggttggc tgccacagtg  
1980  
ggctgcatgg agaaggagga ggatgagagg cttctggaag gggaccgaga gccccttctc  
2040  
caggaagagt aacagcccca ggaggtattg aaggacagga gagatgtcag gtggggatga  
2100  
agaagagggg caggctgggg gaggggtgatg ccagggattc caaggcaccg ccatgtactg  
2160  
cactgccctg gtccaatgct cggtgtctgg gtggcagctg agctgggact caaggtggct  
2220  
cttggaaacct gggaggcagc atctgggggc agtggataga acaccggcc tgtttctggt  
2280  
tgcagatggt tgccgatctg cccttgtcac agataggcta catcccaggg tttctggctg  
2340  
caagtgagac tccaccctcc ccacctggct catttccccg atgaccctgg attgtaggaa  
2400  
agttaagcag gcaccatcct ggaagtctac ccctaggtgg tcgagagacc tgttctttca  
2460  
cagatgtgag aagccccagg atgattgacc atggtgttca ggagcgggga gcactgatga  
2520  
ggtgctgggg atgacaggaa ggaaggaaca ctgggcagaa ccagagagat gggacatggt  
2580  
agactgtggc ccagaccca gagcagagaa acttgttccc atgacccttc ccaaactctgc  
2640  
tccagcagga ctaaggtggc tttcccactc ctggcccaca gccccagaga gcctgtctgt  
2700  
gcacccctgaa ccactctttg ctgggcctcc gcaagggcct ctcttgggtc tgtgtccttt  
2760  
ttcaagcctg tttagatggg ggagtggcca tgccctctgt gaagtggcca aatgcgaaag  
2820  
aataacacct tttcttgcct tctgagctaa gccagacagc ctttatacta gattctatca  
2880  
aaatcttgca aaggaaaaca aaatgaacaa cttctaccct taaacacatc ctttctcccc  
2940  
tgggcttgta agaagatgca gcttgatgca gtcctcaaa caccaggccc cctgggaact  
3000  
gggggtgcgg gagttctccc tctgggggac agaaaatctg actactagga agacttctag  
3060  
gctatgaaac tgacttctag gctatgaaac ttacagggtg tgggtgggca cattatcctt  
3120  
tattttatga aaaataaaat gtgtgtatgt  
3150

&lt;210&gt; 5092

<211> 632  
 <212> PRT  
 <213> Homo sapiens

<400> 5092

```

Met Pro Arg Pro Ala Leu Ser Val Thr Ser Phe Cys His Arg Leu Gly
 1           5           10           15
Lys Arg Glu Arg Lys Gln Ser Phe Met Gly Asn Ser Gly Asn Ser Trp
      20           25           30
Ser His Thr Pro Phe Pro Lys Leu Glu Leu Gly Leu Gly Pro Gln Pro
      35           40           45
Met Ala Pro Arg Glu Leu Pro Thr Cys Ser Ile Cys Leu Glu Arg Leu
      50           55           60
Arg Asp Pro Ile Ser Leu Asp Cys Gly His Asp Phe Cys Ile Arg Cys
      65           70           75           80
Phe Ser Thr His Arg Leu Pro Gly Cys Glu Pro Pro Cys Cys Pro Glu
      85           90           95
Cys Arg Lys Ile Cys Lys Gln Lys Arg Gly Leu Arg Ser Leu Gly Glu
      100          105          110
Lys Met Lys Leu Leu Pro Gln Arg Pro Leu Pro Pro Ala Leu Gln Glu
      115          120          125
Thr Cys Pro Val Arg Ala Glu Pro Leu Leu Leu Val Arg Ile Asn Ala
      130          135          140
Ser Gly Gly Leu Ile Leu Arg Met Gly Ala Ile Asn Arg Cys Leu Lys
      145          150          155          160
His Pro Leu Ala Arg Asp Thr Pro Val Cys Leu Leu Ala Val Leu Gly
      165          170          175
Glu Gln His Ser Gly Lys Ser Phe Leu Leu Asn His Leu Leu Gln Gly
      180          185          190
Leu Pro Gly Leu Glu Ser Gly Glu Gly Gly Arg Pro Arg Gly Gly Glu
      195          200          205
Ala Ser Leu Gln Gly Cys Arg Trp Gly Ala Asn Gly Leu Ala Gly Gly
      210          215          220
Ile Trp Met Trp Ser His Pro Phe Leu Leu Gly Lys Glu Gly Lys Lys
      225          230          235          240
Val Ala Val Phe Leu Val Asp Thr Gly Asp Ala Met Ser Pro Glu Leu
      245          250          255
Ser Arg Glu Thr Arg Ile Lys Leu Cys Ala Leu Thr Thr Met Leu Ser
      260          265          270
Ser Tyr Gln Ile Leu Ser Thr Ser Gln Glu Leu Lys Asp Thr Asp Leu
      275          280          285
Asp Tyr Leu Glu Met Phe Val His Val Ala Glu Val Met Gly Lys His
      290          295          300
Tyr Gly Met Val Pro Ile Gln His Leu Asp Leu Leu Val Arg Asp Ser
      305          310          315          320
Ser His Pro Asn Lys Ala Gly Gln Gly His Val Gly Asn Ile Phe Gln
      325          330          335
Arg Leu Ser Gly Arg Tyr Pro Lys Val Gln Glu Leu Leu Gln Gly Lys
      340          345          350
Arg Ala Arg Cys Cys Leu Leu Pro Ala Pro Gly Arg Arg Arg Met Asn
      355          360          365
Gln Gly His Ala Ser Pro Gly Gly Asp Thr Asp Asp Asp Phe Arg His
      370          375          380
Leu Leu Gly Ala Tyr Val Ser Asp Val Leu Ser Ala Ala Pro Gln His

```

```

385          390          395          400
Ala Lys Ser Arg Cys Gln Gly Tyr Trp Asn Glu Gly Arg Ala Val Ala
          405          410          415
Arg Gly Asp Arg Arg Leu Leu Thr Gly Gln Gln Leu Ala Gln Glu Ile
          420          425          430
Lys Asn Leu Ser Gly Trp Met Gly Arg Thr Gly Pro Gly Phe Thr Ser
          435          440          445
Pro Asp Glu Met Ala Ala Gln Leu His Asp Leu Arg Lys Val Glu Ala
          450          455          460
Ala Lys Arg Glu Phe Glu Glu Tyr Val Arg Gln Gln Asp Val Ala Thr
465          470          475          480
Lys Arg Ile Phe Ser Ala Leu Arg Val Leu Pro Asp Thr Met Arg Asn
          485          490          495
Leu Leu Ser Thr Gln Lys Asp Ala Ile Leu Ala Arg His Gly Val Ala
          500          505          510
Leu Leu Cys Lys Gly Arg Asp Gln Thr Leu Glu Ala Leu Glu Ala Glu
          515          520          525
Leu Gln Ala Thr Ala Lys Ala Phe Met Asp Ser Tyr Thr Met Arg Phe
          530          535          540
Cys Gly His Leu Ala Ala Val Gly Gly Ala Val Gly Ala Gly Leu Met
545          550          555          560
Gly Leu Ala Gly Gly Val Val Gly Ala Gly Met Ala Ala Ala Ala Leu
          565          570          575
Ala Ala Glu Ala Gly Met Val Ala Ala Gly Ala Ala Val Gly Ala Thr
          580          585          590
Gly Ala Ala Val Val Gly Gly Gly Val Gly Ala Gly Leu Ala Ala Thr
          595          600          605
Val Gly Cys Met Glu Lys Glu Glu Asp Glu Arg Leu Leu Glu Gly Asp
          610          615          620
Arg Glu Pro Leu Leu Gln Glu Glu
625          630

```

&lt;210&gt; 5093

&lt;211&gt; 1662

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5093

```

nggctaggtg cgctgcgagc gcgcgcggac cgcgcacagg cggcggagcc ggtatgggccc
60
cgccctggccc tgggcgccgc gccgcacgag caccagccta gagccagggtt tggttttcag
120
gactgaagct tcaagatggc tgaccaggac cctgcgggca tcagccccct ccagcaaata
180
gtggcctcag gcaccggggc tgtgggttacc tctctcttca tgacaccctt ggacgtgggtg
240
aaggttcgcc tgcagtctca gcggccctcc atggccagcg agctgatgcc ttcctccaga
300
ctgtggagcc tctcctatac caaattgccc tccctctcct ataccaaatg gaagtgcctc
360
ctgtattgca atggtgtcct ggagcctctg tacctgtgcc caaatggtgc ccgctgtgcc
420
acctgggttc aagaccctac ccgcttcaact ggcaccatgg atgccttcgt gaagatcgtg
480

```

aggcacgagg gcaccaggac cctctggagc ggccctcccc ccaccctggt gatgactgtg  
 540  
 ccagctaccg ccatctactt cactgcctat gaccaactga aggccttcct gtgtgggtcga  
 600  
 gccctgacct ctgacctcta cgcacccatg gtggctggcg cgctggcccc cctgggcacc  
 660  
 gtgactgtga tcagccccct ggagcttatg cggacaaagc tgcaggctca gcatgtgtcg  
 720  
 taccggggagc tgggtgcctg tgttcgaact gcagtggctc aggggtggctg gcgctcactg  
 780  
 tggctgggct ggggccccac tgcccttcga gatgtgcctt tctcagtga tccccaccc  
 840  
 caagccctgt actggttcaa ctatgagctg gtgaagagct ggctcaatgg gctcaggccg  
 900  
 aaggaccaga cttctgtggg catgagcttt gtggctgggtg gcatctcagg gacgggtggct  
 960  
 gcagtgtga ctctaccctt tgacgtggta aagacccaac gccaggctcg tctgggagcg  
 1020  
 atggaggctg tgagagtga cccctgcat gtggactcca cctggctgct gctgcggagg  
 1080  
 atccggggccg agtcgggcac caagggactc tttgcaggct tccttcctcg gatcatcaag  
 1140  
 gctgccccct cctgtgccat catgatcagc acctatgagt tcggcaaaag cttcttcag  
 1200  
 aggtgaacc aggaccggct tctgggcggc tgaaaggggc aaggaggcaa ggacccgctc  
 1260  
 tctcccacgg atggggagag ggcaggagga gaccagcca agtgcctttt cctcagcact  
 1320  
 gagggagggg gcttgtttcc cttccctccc ggcgacaagc tccagggcag ggctgtccct  
 1380  
 ctgggcggcc cagcacttcc tcagacacaa cttcttcctg ctgctccagt cgtggggatc  
 1440  
 atcacttacc cccccccaa gttcaagacc aaatcttcca gctgccccct tcgtgtttcc  
 1500  
 ctgtgtttgc tgtagctggg catgtctcca ggaaccaaga agccctcagc ctggtgtagt  
 1560  
 ctccctgacc cttgttaatt ccttaagtct aaagatgatg aacttcaaaa aaaaaaaaaa  
 1620  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa  
 1662

&lt;210&gt; 5094

&lt;211&gt; 365

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5094

Met	Ala	Asp	Gln	Asp	Pro	Ala	Gly	Ile	Ser	Pro	Leu	Gln	Gln	Met	Val
1				5				10						15	
Ala	Ser	Gly	Thr	Gly	Ala	Val	Val	Thr	Ser	Leu	Phe	Met	Thr	Pro	Leu
			20					25					30		
Asp	Val	Val	Lys	Val	Arg	Leu	Gln	Ser	Gln	Arg	Pro	Ser	Met	Ala	Ser
		35					40					45			
Glu	Leu	Met	Pro	Ser	Ser	Arg	Leu	Trp	Ser	Leu	Ser	Tyr	Thr	Lys	Leu

50	55	60
Pro Ser Leu Ser Tyr Thr Lys Trp Lys Cys Leu Leu Tyr Cys Asn Gly		
65	70	75
Val Leu Glu Pro Leu Tyr Leu Cys Pro Asn Gly Ala Arg Cys Ala Thr		80
	85	90
Trp Phe Gln Asp Pro Thr Arg Phe Thr Gly Thr Met Asp Ala Phe Val		95
	100	105
Lys Ile Val Arg His Glu Gly Thr Arg Thr Leu Trp Ser Gly Leu Pro		110
	115	120
Ala Thr Leu Val Met Thr Val Pro Ala Thr Ala Ile Tyr Phe Thr Ala		125
	130	135
Tyr Asp Gln Leu Lys Ala Phe Leu Cys Gly Arg Ala Leu Thr Ser Asp		140
145	150	155
Leu Tyr Ala Pro Met Val Ala Gly Ala Leu Ala Arg Leu Gly Thr Val		160
	165	170
Thr Val Ile Ser Pro Leu Glu Leu Met Arg Thr Lys Leu Gln Ala Gln		175
	180	185
His Val Ser Tyr Arg Glu Leu Gly Ala Cys Val Arg Thr Ala Val Ala		190
	195	200
Gln Gly Gly Trp Arg Ser Leu Trp Leu Gly Trp Gly Pro Thr Ala Leu		205
	210	215
Arg Asp Val Pro Phe Ser Val His Pro Pro Pro Gln Ala Leu Tyr Trp		220
225	230	235
Phe Asn Tyr Glu Leu Val Lys Ser Trp Leu Asn Gly Leu Arg Pro Lys		240
	245	250
Asp Gln Thr Ser Val Gly Met Ser Phe Val Ala Gly Gly Ile Ser Gly		255
	260	265
Thr Val Ala Ala Val Leu Thr Leu Pro Phe Asp Val Val Lys Thr Gln		270
	275	280
Arg Gln Val Ala Leu Gly Ala Met Glu Ala Val Arg Val Asn Pro Leu		285
	290	295
His Val Asp Ser Thr Trp Leu Leu Leu Arg Arg Ile Arg Ala Glu Ser		300
305	310	315
Gly Thr Lys Gly Leu Phe Ala Gly Phe Leu Pro Arg Ile Ile Lys Ala		320
	325	330
Ala Pro Ser Cys Ala Ile Met Ile Ser Thr Tyr Glu Phe Gly Lys Ser		335
	340	345
Phe Phe Gln Arg Leu Asn Gln Asp Arg Leu Leu Gly Gly		350
	355	360
		365

&lt;210&gt; 5095

&lt;211&gt; 2230

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5095

tttttttttg gtataaatatc tttatttaaag aaatattgtc attttcgtta aaaaatacat  
60

tagagaagag agttttgggt taccagtctt tcctcacaga atcacagtgt aagatattca  
120

tttcttgacg tctctaggaa ccttcaggcc acggatcagc agaacataca cgaacaaggg  
180

aaaaaaattc ctcttaattt tactgatggc cccccgtctc tcaggtgggtc tgagagtggc  
240

acttggtaaa cagtgtgtgt ttaatccagc ctctgcctct gactaccttt aagaccagga  
300  
ctcgaagcag agtgagaggg ctcctccac ccacctcggg gcgagtgaag acacagctta  
360  
cagaggcggt caaagtagtg acgcagtgag gtctgaatga acacggagga ttttattact  
420  
caccattaat ggtagtgaat tgcccttcgg tggataccat cagggtgaggt aggggaagaca  
480  
ttccagagga aatctgttaa tggggcaacg tttttatttc tgtacattta catacaaatt  
540  
ttccccaag gtacaacaga tgcgacacca tgcagacacg cagctgtgaa cgacagttca  
600  
gaactcagcg taagcttgtg ctatgaacga gcaccgtcag agaattccca cccacacgta  
660  
cagaaacaca gtttttatat tacaacctca aggacagagg gaggggaagtg ttcgccgcta  
720  
gacatgacac accatactgc ttttccaaaa cacacgggac atgaaagcga ggtggtgcct  
780  
tctagacgag aggacagctg tagtgtgggc ctcccccgca catgcgatac ctcgggcggg  
840  
gcggtgtgac gtcacaggcc cacttacggc acttgacgtt tgggattgct catttggtc  
900  
taggaagtgg tgggtgtctga gtgcgatact tcccttacga ggtttgtttt tgttttcttt  
960  
ctgttctgta gccaaaccaa tttaccagcc cgtcttccag atgcagggtga tcttactctc  
1020  
agtaaacaaa aacatgtaac ctttttctctg tttctcttgg gtggttaataa ttttagggca  
1080  
tttgataaga gtttgacttc agaaaaagaa caaagtgaag aaatgttcag ctccatctca  
1140  
ggtgttcaca tttgtgcata acttttattg aaaggctgac agggtaggct agcggaacgg  
1200  
aggggtgtgt ggaggagagt agcagggggg gggaggggtca agttgaaaca gtgggtgcct  
1260  
gcgaagggtc tccctattag ccaggaaggg aacagcacag aggggttcaa gcctgacaga  
1320  
cgggtgctggg aagtgggcag ccgtagcagc ctccccgtct gagcccgggc ggcccagatg  
1380  
cgtatcaggc ttgggtgggt cctgccacct tgctcacttg gtaccggatt tcccggggct  
1440  
gtgcccacag ggaagtgttg ctgctctggc aacatttcat aaagggtgtg ctcaacagct  
1500  
tcaggatatc ctaggctgaa gctgccacca aacaggcacc cggcctcctc ctctcaggc  
1560  
tgccctggga ggagagctgt gggaccgcct cgccggctga gagccattac ctgccgaccg  
1620  
tcggcaagtc agcctcactc acaccactg gactctgctc ccaagagccc aggtgtttt  
1680  
cctcaaagct agcctctttt ccagtcacg atggattagt cctgatggct gaagtgtgta  
1740  
gcagtgtctt cgttggacca gttttttatt gtcatttgag gtggagatca gagatcatga  
1800  
ccagaagagt gtgagtgtg tcccttgcca ccaacttct agagatttcg ggcagcactc  
1860

tacagcttca atttccaaaa aaaaaaaagt ttacacgacc agtgagactg ctcgcaactt  
 1920  
 tcatcactta gcatatcctt ccacaacaca gtacagtaag tggactgcag ggtggcctgg  
 1980  
 tgctgagggt gatgggtgca gacgtacacc tgtccagggt caggctcagg ggcctcgctg  
 2040  
 gatccttccc accttcccca actgcctact ggctgggcta ctggataggt cctattctgt  
 2100  
 acataatggg ggtttgttga cagggtggctt tatagcaagt actccaaaaa aggtaaaagg  
 2160  
 aatttcacaa gtttggcacg caaaggctgc acagatctaa agaaaggcct ttgtaaagg  
 2220  
 gaatgcaaac  
 2230

<210> 5096  
 <211> 153  
 <212> PRT  
 <213> Homo sapiens

<400> 5096  
 Met Ala Leu Ser Arg Arg Gly Gly Pro Thr Ala Leu Leu Pro Gly Gln  
 1 5 10 15  
 Pro Glu Glu Glu Glu Ala Gly Cys Leu Phe Gly Gly Ser Phe Ser Leu  
 20 25 30  
 Gly Ile Pro Glu Ala Val Glu Gln His Leu Tyr Glu Met Leu Pro Glu  
 35 40 45  
 Gln Gln His Phe Pro Val Gly Thr Ala Pro Gly Asn Pro Val Pro Ser  
 50 55 60  
 Glu Gln Gly Gly Arg Thr His Pro Ser Leu Ile Arg Ile Trp Ala Arg  
 65 70 75 80  
 Arg Ala Gln Gln Gly Arg Leu Leu Arg Leu Pro Thr Ser Gln His Arg  
 85 90 95  
 Leu Ser Gly Leu Asn Pro Ser Val Leu Phe Pro Ser Trp Leu Ile Gly  
 100 105 110  
 Arg Pro Phe Ala Gly Thr His Cys Phe Asn Leu Thr Leu Pro Pro Pro  
 115 120 125  
 Ala Thr Leu Leu His Thr Pro Leu Arg Ser Ala Ser Leu Pro Cys Gln  
 130 135 140  
 Pro Phe Asn Lys Ser Tyr Ala Gln Met  
 145 150

<210> 5097  
 <211> 3074  
 <212> DNA  
 <213> Homo sapiens

<400> 5097  
 tttttttttt tttttttttt tttttttttt tttttttttt ttttctaaca cttatgcatt  
 60  
 tattttcatg tgtaagaaga aaaacataac tagcacgtga acatgactgc atggatacac  
 120  
 ggctcagcac gaggctaaag tcagaagtga gtgaaaacaa aatagcatgt tgatttaagt  
 180

gaaataacag aacaggaggc ctttggttat aacaattgtg gaggtggtct gtgaatgcag  
240  
aagttcggga ctccctgctc taggctcagg gcaagacgct gtggtctggg ccgaagcccc  
300  
tggggttcta cagagaagcc tgcccagtgc acggccccctg tggcattctc gtgggagcgt  
360  
gtgagacccc agggagggaa gcacattctg tttaacttgt cctgcccgtc caaatgtct  
420  
tagaagtgat aaagcaacaa tgatgattct ccttcaaagg gaagaagaat cttccagggtg  
480  
tggtcttgag gacgcagagg ttacaacaca ggctgggctg cagggcccaa gtaggacttg  
540  
aggtcataac cagaggactg aagggaaccc tgtcctggca ccatactgga gaagtgcttg  
600  
tttgtgtttg ggggagaggg ggtgcatggc ccaagtcaag gctgaaggag gaacgcttgg  
660  
cccctgcacc ctgttcccag catataccag gctctcacc catgcctgct gactcaacac  
720  
agcaccgagg aggtgccgcc agaaggcagg tcgggggatg ctgacatccc ggggtgtctg  
780  
cggaccaccc tctcctcttg ggtctgggcc ctggccccac tttgcaccac acattccagg  
840  
gcggggaagt ccatggctgt gcccactg ggtcccatc ctgtacatgt gcgaaccaag  
900  
ggggtgtttg ctattatgct ccccaactaa tccaaagaat gttggttccc atcatttcaa  
960  
cctcaacatt ttcaaaaagc actttttttt ttggagacag agtctcgctg tgtctcccag  
1020  
gctggagtgc agcggggtga tctcagctca ctgcaacctc tgccctctgg gttcaagcaa  
1080  
ttctcctgcc tcagcctccc gagtagctgg gattacaggt gcgtgccacc acaccagct  
1140  
aatTTTTtga ttttttagtag aaacgggggt tcaccacatt ggccaggctg gtcttgaact  
1200  
cctgacctca agtgatctgc ctgccttggc ctcccaaagt gctgggatta caggcatgag  
1260  
ccaccatgcc cggcctaaaa gcactttttt tttttttgag acggagtctc cctcttgttg  
1320  
cccaggctgg aatgcaatgg tgcaatctca nnctgcaacc tctgccttcc agattgaagc  
1380  
aattctctg cctcagcttc ccagtagct gggattacag gcacctgcta ccatgcctgg  
1440  
ctaatttttg tatttttagt agagacaggg tttcaccatg ttggccaggc tggctctgaa  
1500  
ctcctgacct caggatgcc acccacctg gcctcccaa gtgctgggat tacaagcgtg  
1560  
agccaccatg ccagcctct aaaaggcact tttaaggga ccttgagtt tgcctcaaa  
1620  
cagctcaacc ccacaggcga ggctggctct agcacccta ccagacagct agtcagtga  
1680  
aggggtccaa cctccccag cttttccctg gaagtggggc agggtcagca ggggaattctg  
1740  
ggggtgaagc tcatggteca ggagccttct ggtgccaga gggtagagga gtggaaggcc  
1800



tgggggtgct cagccccact gtatcctgga caggctgggc cggcttgag gctggtctcc  
 1860  
 atggaggctc agaaggaaag tgtgcaagag caggtttagga agggaaacca agtcaggga  
 1920  
 gggccccagc cggggctagt ggtctgttca ctgcccagcg ggcactctca gcagcacc  
 1980  
 gcagcactcc gcttcacatg gcatggcttg cagaagagat ggttggtcag ggggtagcag  
 2040  
 ccttggtccg tgggctcgac agacaggagg atcctgcagt cctcacacct gtagcaattt  
 2100  
 tcatggaagt ttcttcccat gcattcgatt ttgaaggcat ctttcccatc ccgagggatg  
 2160  
 atgggatttt cacagatgct gcagacgggg gcgaatttcc tgtagaagtc gtccaggcag  
 2220  
 tacacctcgt tctggctgcc caggggcaaag ctctcatccc caatgcaccg ggcgcaggtc  
 2280  
 acacacgtga agcaggaggg gtggaaggcc tggcccaggg ccctgatgat gtggtcccg  
 2340  
 accacctcgc cacacttgcc gcacctctcc agtgtgtcct ggtagcaggg ttcgcagagg  
 2400  
 ggtcgcccat ccttctggta gaagctctgc ccagccagct ggcggcggca ggtgtggcga  
 2460  
 ggtggtccgg gaccacatca tcagggccct gggccaggcc ttccaccct cctgcttcac  
 2520  
 gtgtgtgacc tgcgcccggt gcattgggga tgagagcttt gccctgggca gccagaacga  
 2580  
 ggtgtactgc ctggacgact tctacaggaa attcgcccc gtctgcagca tctgtgaaaa  
 2640  
 tcccatcatc cctcgggatg ggaaagatgc cttcaaaatc gaatgcatgg gaagaaactt  
 2700  
 ccatgaaaat tgctacaggt gtgaggactg caggatcctc ctgtctgtcg agccacgga  
 2760  
 ccaaggctgc taccctctga acaaccatct cttctgcaag ccatgccatg tgaagcggag  
 2820  
 tgctgcgggg tgctgctgag agtgcccgct gggcagtgaa cagaccacta gccccggctg  
 2880  
 gggcccttcc ctgacttggg ttcccttctt aacctgctct tgcacacttt ccttctgagc  
 2940  
 ctccatggag accagcctgc aagccggccc agcctgtcca ggatacagtg gggctgagca  
 3000  
 ccccaggcc ttccactct ctacctctg ggcaccagaa ggctcctgga ccatgagctt  
 3060  
 cccccaga attc  
 3074

&lt;210&gt; 5098

&lt;211&gt; 114

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5098

Met Ala Val Pro Gln Leu Gly Pro Ile Pro Val His Val Arg Thr Lys  
 1 5 10 15  
 Gly Val Phe Ala Ile Met Leu Pro Thr Lys Ser Lys Glu Cys Trp Phe

```

                20                25                30
Pro Ser Phe Gln Pro Gln His Phe Gln Lys Ala Leu Phe Phe Leu Glu
                35                40                45
Thr Glu Ser Arg Cys Val Ser Gln Ala Gly Val Gln Arg Gly Asp Leu
                50                55                60
Ser Ser Leu Gln Pro Leu Pro Pro Gly Phe Lys Gln Phe Ser Cys Leu
65                70                75                80
Ser Leu Pro Ser Ser Trp Asp Tyr Arg Cys Val Pro Pro His Pro Ala
                85                90                95
Asn Phe Cys Ile Phe Ser Arg Asn Gly Val Ser Pro His Trp Pro Gly
                100                105                110
Trp Ser

```

&lt;210&gt; 5099

&lt;211&gt; 801

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5099

```

ggggccggga agggacctgg ctggggaatg agaaaacctg gggccatcgt caaccagag
60
acttggggttt gcaggtgaag ggtatcgggc cgtccatccc tctagcatgc ttctcacgac
120
ttgcatcttt acccactaga cttctgcact gacccagggg ctggagcgaa tcccagacca
180
gctcggctac ctggtactga gtgaagggtgc agtgctggcg ggcagcaagt gtgaagacag
240
aaaaagatgg agccattaac agtcatctgg ggacctggag aatgatgagc aggcagccag
300
tgccatctct gagctggtca gcacagcctg cggtttccgg ctgcaccgcg gcatgaatgt
360
gcccttcaag cgctgtctg gtgtgtctct cctccagtgg tctttggaga acacacactg
420
ctggtgacgg tgtcaggaca gaggggtgttt gtggtgaaga ggcagaaccg aggtcgggag
480
cccattgatg tctgagcctg cgggagggcg agggtcggag aagcggattg ggtcctgggc
540
ctctgtgatg aggcaggcac acctgtcggg cttggcttgc tgctagaact agggccttct
600
gctcggccac ctcccacccc tacctggacg ggcccaggct tggggactct gagctgtgtt
660
aaggagaaca agggcaagga gacctccctt tgtgctccct cactccctaa taaacatgag
720
tctgatgttc tccaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
780
aaaaaaaaaa aaaaaaaaaa a
801

```

&lt;210&gt; 5100

&lt;211&gt; 102

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5100

```

Ala Cys Arg Arg Ala Arg Val Gly Glu Ala Asp Trp Val Leu Gly Leu
 1           5           10           15
Cys Asp Glu Ala Gly Thr Pro Val Gly Leu Gly Leu Leu Leu Glu Leu
          20           25           30
Gly Pro Ser Ala Arg Pro Pro Pro Thr Pro Thr Trp Thr Gly Pro Gly
          35           40           45
Leu Gly Thr Leu Ser Cys Val Lys Glu Asn Lys Gly Lys Glu Thr Ser
          50           55           60
Leu Cys Ala Pro Ser Leu Pro Asn Lys His Glu Ser Asp Val Leu Gln
65           70           75           80
Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
          85           90           95
Lys Lys Lys Lys Lys Lys
          100

```

&lt;210&gt; 5101

&lt;211&gt; 1711

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5101

```

ggacctgctg ctggaagagc agcggccccga gccgggggcca tggcgaagct gctgagctgc
60
gtcctaggcc cccgggtcta caaaatctac cgggagaggg actctgaaag ggccccggcc
120
agcgtccctg agacgccaac ggcagtcact gccccccatt ccagctcctg ggatacgtac
180
tatcagcccc gtgccctgga gaaacatgct gacagcatcc tggcactggc ttcagtattc
240
tggtccatct cttattactc ctctcccttc gccttcttct acttgtacag gaaaggttac
300
ttgagtttgt ccaaagtggg gccgttttct cactatgctg ggacattgct gctacttctg
360
gcaggtgtgg cctgcctccg aggcattggc cgctggacca acccccagta ccggcagttc
420
atcaccatct tggaagcaac acatcggaac cagtcttcag aaaacaagag gcagcttgcc
480
aactacaact ttgacttccg gagctggcca gtcgacttcc actgggaaga acccagcagc
540
cggaaggagt ctcgaggggg cccttcccgc cgggggtgtg ccctgcttcg ccagagccc
600
ctgcaccggg ggacagcaga caccctctc aaccgggtta agaagctgcc ttgtcagatc
660
accagctacc tgggtggcgca caccctaggg cgccggatgc tgtatccagg ctctgtgtac
720
ctgctgcaga aggccctcat gcctgcgtg ctgcagggcc aggcccgact ggtggaagag
780
tgtaatgggc gccgggcaaa gctgctggcc tgtgatggca atgagattga caccatgttt
840
gtggaccggc gggggacagc tgagccccag ggacagaagc tggatgatct ctgtgagggg
900
aatgctgggt tttatgaggt gggctgcgtc tccacgcccc tggaagctgg atattcagtc
960

```

ctgggctgga atcatccagg ctttgctgga agcacggggg taccattccc acagaatgag  
 1020  
 gccaatgcca tggatgtggt ggttcagttt gccatccacc gcctgggctt ccagccccag  
 1080  
 gacattgtca tctacgctg gtccatcggc ggcttcactg ccacgtgggc agccatgtcc  
 1140  
 taccagatg ttagtgccat gatcctggat gcctcctttg atgacctggt gcccttggcc  
 1200  
 ttgaaggcca tgccagacag ctggaggggc ctggtgacca ggaccgtgag gcagcatctc  
 1260  
 aatctaaaca acgcgagca gctgtgcaga taccagggtc ctgtactgct gatccggaga  
 1320  
 accaaggatg agatcatcac caccacgtga gtgcgtggga atctcggccc tcaggaaccc  
 1380  
 cagagatggc caggaacttg tcccttctac ctctgccac cagaaacctg ggtatctaga  
 1440  
 cccttctctc taacctccag cccctccagg gtacattctt ctcaccccca gggttcctga  
 1500  
 ggacatcatg tccaaccgag gcaatgacct cctgctgaag ctctgcagc atcggtatcc  
 1560  
 ccgggtgatg gcagaggagg gtcttcgagt ggtgaggcag tgggtggagg cctcctcaca  
 1620  
 gctggaggaa gcctcaattt atagccgatg ggaggtggaa gaggactggt gtctgtctgt  
 1680  
 cctccgctcc taccaggcag aacacggggc c  
 1711

<210> 5102  
 <211> 436  
 <212> PRT  
 <213> Homo sapiens

<400> 5102  
 Met Ala Lys Leu Leu Ser Cys Val Leu Gly Pro Arg Leu Tyr Lys Ile  
 1 5 10 15  
 Tyr Arg Glu Arg Asp Ser Glu Arg Ala Pro Ala Ser Val Pro Glu Thr  
 20 25 30  
 Pro Thr Ala Val Thr Ala Pro His Ser Ser Ser Trp Asp Thr Tyr Tyr  
 35 40 45  
 Gln Pro Arg Ala Leu Glu Lys His Ala Asp Ser Ile Leu Ala Leu Ala  
 50 55 60  
 Ser Val Phe Trp Ser Ile Ser Tyr Tyr Ser Ser Pro Phe Ala Phe Phe  
 65 70 75 80  
 Tyr Leu Tyr Arg Lys Gly Tyr Leu Ser Leu Ser Lys Val Val Pro Phe  
 85 90 95  
 Ser His Tyr Ala Gly Thr Leu Leu Leu Leu Ala Gly Val Ala Cys  
 100 105 110  
 Leu Arg Gly Ile Gly Arg Trp Thr Asn Pro Gln Tyr Arg Gln Phe Ile  
 115 120 125  
 Thr Ile Leu Glu Ala Thr His Arg Asn Gln Ser Ser Glu Asn Lys Arg  
 130 135 140  
 Gln Leu Ala Asn Tyr Asn Phe Asp Phe Arg Ser Trp Pro Val Asp Phe  
 145 150 155 160  
 His Trp Glu Glu Pro Ser Ser Arg Lys Glu Ser Arg Gly Gly Pro Ser

[illegible]

```
<210> 5103
<211> 1982
<212> DNA
<213> Homo sapiens
```

```

<400> 5103
tttttttttt ttgacacaat tcagctttat ttttacttaa ttataacaat ttttaaaaaa
60
tccatgactt tgtgctattt ctaatattta aataaaaaaac atttcaaatt ttgcacaaat
120
aatttaggcc aatacataac tagatttgaa taaagtcaga tgaagcaata attcctcctc
180
tgtgtttgaa aggaatgagt gtgggttaca agtcacagga tgagtccttg ggatctgggg
240
tgggagaagg ggtggatcaa gaatgacttg ggtttgtcac tccctagcag gctgagggcg
300
tgacacagca gctcggtggc ggagaggtct attctagttt ctaacactcc aatgctaact
360

```

ttttggatgt atttccttct agcatgtaga aagggtcttt cttggctgcc aggaagtagg  
420  
gagcagggat gtggcatggt gatgatctga ggacagccag gcatatgctc agacactttg  
480  
gaaaactggg gagggggaac agggagacag aatcttcctc ttcttccttt tgtgaactgg  
540  
ggaggagggg gcttgggtgac attttcctga gtataaagaa ggaatacagg tttgaaaggt  
600  
ttgtaattgt atatgaaaac aggtattgaa aaccaatact gggggaaaaa aggcattgta  
660  
aacacttcta tttaaaatga agatttctgg aacaactata ctatatagtg gtatcacaag  
720  
tctttagctg gtaagatcta gcaactgaaac aactcttaat ttttaacttg tgagggttct  
780  
ttttaagca ccacttaaga cctatatatt aaaaaaatta aatatagaaa gattgttcta  
840  
tctaataaat gagtttgaga atgcacagga aacaacaaaa cccattttta acctctggta  
900  
actgaagtgg agcattaaat tcaaagccac tttgaggatt tctacattg ttcacctaag  
960  
ggaaaacaaa tgcagagcta tcaaagagct tctcgataaa ttcccagacc ttggagggct  
1020  
acagcttttc ataaatatgg tcaactggact gatgatttct aaatttttaa tgtaataccc  
1080  
ccaaaaagta aaatatagga tttataagta ttttattttt ctgagaaatg accaaaaaat  
1140  
tggaaccagt tttacaatc tctgaaaact ttaaattcta gacatgttta ttttgaaaca  
1200  
cacttccaaa caagataaac aacaatatgt aagtctacta cactgcagaa gtagcttaaa  
1260  
cttgccaaga catcctcctt tgcacttggt tctcaagag ttgctagggtc attttttttg  
1320  
cctgtggcca gcagcctctt taaaaacaac aaaggaccta atgtcaaagt cactctcagg  
1380  
tgtttgccct gccagctcag gccttctcgg cacaccgcac cccgaaggag cacggaggcc  
1440  
cgcagggctg gctggccctg gttccagcct caccgcccgt tggaccgctt ttcgtacttg  
1500  
tcttggtgc tccgctttcg tggcggggag taactggcgg aacctcgagc gcggaagctg  
1560  
tgcttgtaag gatggcttct gtgtttcttc gggttttctt ctttctgggc ctggctcttc  
1620  
gctggttctt tctgccttc tttttgttca tggctctgct ctttatgaga gggcaatgtg  
1680  
tttttaattg tgtaattag aaatctttta ttggtgctag caagaggaca cttcatccaa  
1740  
cccatgggtc ccattgttct agctctagtt ttcccacgtt ttgcctcctt aagcagttct  
1800  
tctattgctt tctctccag ctctgatcc tcttccatcg ctggggcggt ttctggatcc  
1860  
tcaggtggtg ctggcggatc gggggctctg tcccatagcg cgaggcgcg aggcgaagca  
1920  
ggaagcaagg accgaccgac ggaaggcgcg gaggacggaa ggaggaggga ggagcgcagc  
1980

gg  
1982

<210> 5104  
<211> 167  
<212> PRT  
<213> Homo sapiens

<400> 5104  
Met Phe Ile Leu Lys His Thr Ser Lys Gln Asp Lys Gln Gln Tyr Val  
1 5 10 15  
Ser Leu Leu His Cys Arg Ser Ser Leu Asn Leu Pro Arg His Pro Pro  
20 25 30  
Leu His Leu Phe Pro Gln Glu Leu Leu Gly His Phe Phe Cys Leu Trp  
35 40 45  
Pro Ala Ala Ser Leu Lys Thr Thr Lys Asp Leu Met Ser Lys Ser Leu  
50 55 60  
Ser Gly Val Cys Pro Ala Ser Ser Gly Leu Leu Arg Thr Pro His Pro  
65 70 75 80  
Glu Gly Ala Arg Arg Pro Ala Gly Leu Ala Gly Pro Gly Ser Ser Leu  
85 90 95  
Thr Ala Gly Trp Thr Ala Phe Arg Thr Cys Pro Gly Cys Ser Ala Phe  
100 105 110  
Val Ala Gly Ser Asn Trp Arg Asn Leu Glu Arg Gly Ser Cys Ala Cys  
115 120 125  
Lys Asp Gly Phe Cys Val Ser Ser Gly Phe Leu Leu Ser Gly Pro Gly  
130 135 140  
Ser Ser Leu Val Pro Tyr Arg Pro Leu Phe Val His Gly Leu Ala Leu  
145 150 155 160  
Tyr Glu Arg Ala Met Cys Phe  
165

<210> 5105  
<211> 1359  
<212> DNA  
<213> Homo sapiens

<400> 5105  
ntgctgatgg aatgtttctg ttcagggctg ttgtgacagt tgtgaagaga cagtccggcc  
60  
agtgccaatg agtgcattgg ttgggagttg ttttgtgtgc ccccgcaaa gagtgtgggg  
120  
tccagttccc cccacacca gcaaagtga caagacccc cagaggtggt tctctctgtt  
180  
ctggcttgtt gcaggttcgg agggcagccc tgagtgtctg ccatccgctc aactcagtgt  
240  
tttcttttcc cgcagacct cgcgacctgt gtcagcagag ccgacctgca ccaccatgtg  
300  
catcatcttc ttttaagttt atcctcgccc tgtttccaaa aacgcgtaca ggctcatctt  
360  
ggcagccaac agggatgaat tctacagccg accctccaag ttagctgact tctgggggaa  
420  
caacaacgag atcctcagtg ggctggacat ggaggaaggc aaggaaggag gcacatggct  
480

gggcatcagc acacgtggca agctggcagc actcaccaac tacctgcagc cgcagctgga  
 540  
 ctggcaggcc cgagggcgag cacagcaaag ggagacgtca tttgctacta tgggaaccga  
 600  
 ggggagcctg atcctatcgt tttgacgccc ggcacgtacg ggctgagcaa cgcgctgctg  
 660  
 gagactccct ggaggaagct gtgctttggg aagcagctct tcctggaggc tgtggaacgg  
 720  
 agccaggcgc tgcccaagga tgtgctcatc gccagcctcc tggatgtgct caacaatgaa  
 780  
 gaggcgcagc tgccagaccc ggccatcgag gaccagggtg gggagtacgt gcagcccatg  
 840  
 ctgagcaagt acgcggctgt gtgctgctgc tgccctggct acggcaccag aaccaacact  
 900  
 atcatcctgg tagatgcgga cggccacgtg accttcactg agcgtagcat gatggacaag  
 960  
 gacctctccc actgggagac cagaacctat gagttcacac tgcagagcta accccacctc  
 1020  
 tgggcctggc cagtgggctc ctggggggcc ctgccttgag gggcactgtg gacaggaaac  
 1080  
 cttcctttgc catactgcat tgcactgccc gtggcttggc cagcatcccc cggatcaggg  
 1140  
 ccctgtgggt tgcgtgttac ccatctgtgt ccccatgccc agttcagggt ctgcctttat  
 1200  
 gccagtgagg agcagcagag tctgatacta ggtctaggac cggccgaggt ataccatgaa  
 1260  
 catgtggata gacctgagcc cactcttgca catgtacaca ggcactcaca tggcacacac  
 1320  
 atacactcct gcgtgtgcac aagcacacac atgccaggc  
 1359

&lt;210&gt; 5106

&lt;211&gt; 178

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5106

Met	Ala	Gly	His	Gln	His	Thr	Trp	Gln	Ala	Gly	Ser	Thr	His	Gln	Leu
1			5					10						15	
Pro	Ala	Ala	Ala	Ala	Gly	Leu	Ala	Gly	Pro	Arg	Ala	Ser	Thr	Ala	Lys
			20					25					30		
Gly	Asp	Val	Ile	Cys	Tyr	Tyr	Gly	Asn	Arg	Gly	Glu	Pro	Asp	Pro	Ile
		35					40					45			
Val	Leu	Thr	Pro	Gly	Thr	Tyr	Gly	Leu	Ser	Asn	Ala	Leu	Leu	Glu	Thr
	50					55					60				
Pro	Trp	Arg	Lys	Leu	Cys	Phe	Gly	Lys	Gln	Leu	Phe	Leu	Glu	Ala	Val
65					70					75					80
Glu	Arg	Ser	Gln	Ala	Leu	Pro	Lys	Asp	Val	Leu	Ile	Ala	Ser	Leu	Leu
			85					90						95	
Asp	Val	Leu	Asn	Asn	Glu	Glu	Ala	Gln	Leu	Pro	Asp	Pro	Ala	Ile	Glu
		100						105					110		
Asp	Gln	Gly	Gly	Glu	Tyr	Val	Gln	Pro	Met	Leu	Ser	Lys	Tyr	Ala	Ala
	115						120					125			
Val	Cys	Val	Arg	Cys	Pro	Gly	Tyr	Gly	Thr	Arg	Thr	Asn	Thr	Ile	Ile



```
<210> 5107
<211> 1207
<212> DNA
<213> Homo sapiens
```

4293

ggccggc  
1207

<210> 5108  
<211> 83  
<212> PRT  
<213> Homo sapiens

<400> 5108  
Met Arg Thr Gly Arg Ser Arg Ala Pro Ala Pro Val Cys Ile Tyr Leu  
1 5 10 15  
Phe Ile Tyr Leu Phe Arg Asp Arg Val Ser Leu Cys Arg Xaa Arg Gly  
20 25 30  
Val Gln Trp Arg Asn Leu Ser Ser Leu Gln Pro Pro Pro Gly Phe  
35 40 45  
Lys Arg Phe Ser Cys Leu Ser Leu Leu Ser Ser Trp Asp Tyr Arg Arg  
50 55 60  
Val Pro Pro Cys Pro Ala Asn Phe Cys Ile Phe Ser Arg Asp Arg Val  
65 70 75 80  
Ser Pro Cys

<210> 5109  
<211> 651  
<212> DNA  
<213> Homo sapiens

<400> 5109  
nnggccgctt ccgtgcaaaa gctcggggac gctctgctgg agaagattcg ggagcccgc  
60  
ctgcagnatg cgcagtggac ttttgaatca gctgtgcaag agaatatcag cattaatggg  
120  
caagcatggc aggaagcttc agataattgt tttatggatt ctgacatcaa agtacttgaa  
180  
gatcagtttg atgaaatcat agtagatata gccacaaaac gtaagcagta tcccagaaa  
240  
atcctggaat gtgtcatcaa aaccataaaa gcaaaacaag aaattctgaa gcagtaccac  
300  
cctgttgtag atccactgga cctaaaatat gaccctgac cagttctcaa cggaatgct  
360  
ttcaactttt cccattcaa catgatgttg gctgtggatt tgtcatatat gggtttttatt  
420  
acttcggccc ctcatatgga aaatttgaaa tgcagagggg aaacagtagc aaaggagatc  
480  
agtgaagcca tgaagtcctt gcctgcatta attgaacaag gagagggatt ttccaagtt  
540  
ctcaggatgc agcctgttat ccacctccag aggattcacc aagaagtctt ttccagttgt  
600  
cataggaaac cagatgctaa acctgagaac ttataaacac agatagaaac c  
651

<210> 5110  
<211> 206  
<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5110

```

Leu Leu Glu Lys Ile Arg Glu Pro Ala Leu Gln Xaa Ala Gln Trp Thr
 1           5           10           15
Phe Glu Ser Ala Val Gln Glu Asn Ile Ser Ile Asn Gly Gln Ala Trp
      20           25           30
Gln Glu Ala Ser Asp Asn Cys Phe Met Asp Ser Asp Ile Lys Val Leu
      35           40           45
Glu Asp Gln Phe Asp Glu Ile Ile Val Asp Ile Ala Thr Lys Arg Lys
      50           55           60
Gln Tyr Pro Arg Lys Ile Leu Glu Cys Val Ile Lys Thr Ile Lys Ala
      65           70           75           80
Lys Gln Glu Ile Leu Lys Gln Tyr His Pro Val Val His Pro Leu Asp
      85           90           95
Leu Lys Tyr Asp Pro Asp Pro Val Leu Asn Gly Asn Ala Phe Asn Phe
      100          105          110
Ser Pro Phe Asn Met Met Leu Ala Val Asp Leu Ser Tyr Met Val Phe
      115          120          125
Ile Thr Ser Ala Pro His Met Glu Asn Leu Lys Cys Arg Gly Glu Thr
      130          135          140
Val Ala Lys Glu Ile Ser Glu Ala Met Lys Ser Leu Pro Ala Leu Ile
      145          150          155          160
Glu Gln Gly Glu Gly Phe Ser Gln Val Leu Arg Met Gln Pro Val Ile
      165          170          175
His Leu Gln Arg Ile His Gln Glu Val Phe Ser Ser Cys His Arg Lys
      180          185          190
Pro Asp Ala Lys Pro Glu Asn Phe Ile Thr Gln Ile Glu Thr
      195          200          205

```

&lt;210&gt; 5111

&lt;211&gt; 2247

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5111

```

ccccccgccg ccgcctcagg ctctcaccc gccgcgccg ccgcgcgagg cggggacatg
60
caaatgaacc aacggtctcc gcagcgccgc gccgcgcagg cgcaagccgc cgccgagtc
120
tggtgcgcag gcgcgggccc ccgcggccc gctctcttgc gcaagcgcg tgctcgcttc
180
ttctgggcgg acgctctgga ggcaaaacat ttccctgctg ggggcggcga ccaccgtgag
240
cgccccggaa ggggcggcaa agacgcctcc gtcgcgcacg aggtggcctc gttggcttta
300
ccttggttcg cggtcgctct tggttatcgt gagcgccgc gactctctgg gaggccaagc
360
ctagggggcg cacagcgctt gcgcgcgtac ggcgcccgga aggggctaga ggcggctccc
420
tggttgacaa ccgcgcgccc cacctttccc cacgtggccg cgaagaccgg ctcaggagca
480
tctatcggct gcacgccaac atcaacacag gcgaagatgg tctccaagcg cattgcccag
540

```

gagacctttg atgcagctgt gcgcgagaac atcgaggagt ttgcgatggg gccagaggag  
600  
gcagtgaaag aggccgtgga gcagtttgaa tcgcaagggg ttgatctgag caacattgta  
660  
aagacggcac ctaaagtctc tgcagacgga tcccaggagc ccacacatga catcctgcag  
720  
atgctcagtg acctccagga gtctgtggcc agctctcgcc cccaggaggt gtcagcatac  
780  
ctcacccgct tctgcgacca gtgcaaacag gacaaggcct gccgcttcct cgcggcccag  
840  
aagggggcct accccatcat cttcactgcc aggaagctgg ccactgcagg tgaccagggc  
900  
cttctgctcc agtccctcaa tgccctgtcg gtgctgactg atggacagcc agacctctg  
960  
gatgcccagg gcctgcagct cctagtggcc acgctgacct agaattgctga tgaggctgac  
1020  
ctgacctgct ctgggatccg ctgtgtgcgt cacgcttgcc tgaaacatga acagaatcgg  
1080  
caagacctgg tgaaagctgg cgtgctgcct ctgctgactg gtgccatcac ccatcatggc  
1140  
caccacactg acgtggctcag ggaagcctgc tgggccctgc gtgtcatgac cttcgatgac  
1200  
gacatccgtg tgccctttgg ccatgcccac aacctgcca agatgattgt gcaggagaac  
1260  
aaaggcttga aggtgctcat cgaagccacc aaagcgcttc tggataacct tggcatcctg  
1320  
agcgagctct gtggaacct gtcccgctg gccattcgca acgagttctg ccaggaggtc  
1380  
gtcgacctcg ggggcctgag cattctggtg tccctgctag ccgactgcaa tgaccaccag  
1440  
atgagggacc agagcggcgt tcaggagctc gtgaagcaag tgctgagcac cctgcgagcc  
1500  
atcgaggca acgacgacgt gaaagatgct attgtccgtg ctggtgggac ggagtccatc  
1560  
gtggctgcta tgaccagca tctgaccagc cccaggtgt gggagcagag ctgcgcggcc  
1620  
ctgtgcttcc tggccctgcg taagcccgac aacagccgca tcatcgtgga ggggtggcggg  
1680  
gctgtggcag cactgcaggc catgaaggca cccccgaga aggccggcgt gcagaaacag  
1740  
gcttgcatgc tgatccgaaa cctggtggcc cacggccagg cttctctgaa gcccatcctg  
1800  
gacctggggg ctgaggcact catcatgcag gcccgatctg cccaccgtga ctgtgaggac  
1860  
gtggccaagg ccgccctgcg ggacctgggt tgtcatgtcg agctccgaga gctgtggaca  
1920  
ggccagaggg gcaacctggc gccatgacct caggcccagt ctgggccgtg actctgggtg  
1980  
agtcgtgtga ctcaggaatg ggggtagatc catgtcctcc actgtccccc attagttctg  
2040  
tccccttcac aatgagaagt gttttctggc aggccctagg taaagggctc ggggaggggg  
2100  
gagccttgta gggaggcctc tacacagaag aaagcagccc ccatgtccca gccacttctg  
2160

gggtccagcc agcagcacgg atgttactgt cctgctcctt ccccccagccc cagccctac  
 2220  
 cagagggggc aaagggcacg tcccatc  
 2247

<210> 5112  
 <211> 581  
 <212> PRT  
 <213> Homo sapiens

<400> 5112  
 Ala Lys His Phe Pro Ala Gly Gly Gly Asp His Arg Glu Arg Pro Gly  
 1 5 10 15  
 Arg Gly Gly Lys Asp Ala Ser Val Ala His Glu Val Ala Ser Leu Ala  
 20 25 30  
 Leu Pro Trp Phe Ala Val Val Leu Gly Tyr Arg Glu Arg Pro Arg Val  
 35 40 45  
 Ser Gly Arg Pro Ser Leu Gly Ala Pro Gln Arg Leu Arg Ala Tyr Gly  
 50 55 60  
 Gly Arg Lys Gly Leu Glu Ala Ala Pro Trp Val Thr Thr Ala Arg Pro  
 65 70 75 80  
 Thr Phe Pro His Val Ala Ala Lys Thr Gly Ser Gly Ala Ser Ile Gly  
 85 90 95  
 Cys Thr Pro Thr Ser Thr Gln Ala Lys Met Val Ser Lys Arg Ile Ala  
 100 105 110  
 Gln Glu Thr Phe Asp Ala Ala Val Arg Glu Asn Ile Glu Glu Phe Ala  
 115 120 125  
 Met Gly Pro Glu Glu Ala Val Lys Glu Ala Val Glu Gln Phe Glu Ser  
 130 135 140  
 Gln Gly Val Asp Leu Ser Asn Ile Val Lys Thr Ala Pro Lys Val Ser  
 145 150 155 160  
 Ala Asp Gly Ser Gln Glu Pro Thr His Asp Ile Leu Gln Met Leu Ser  
 165 170 175  
 Asp Leu Gln Glu Ser Val Ala Ser Ser Arg Pro Gln Glu Val Ser Ala  
 180 185 190  
 Tyr Leu Thr Arg Phe Cys Asp Gln Cys Lys Gln Asp Lys Ala Cys Arg  
 195 200 205  
 Phe Leu Ala Ala Gln Lys Gly Ala Tyr Pro Ile Ile Phe Thr Ala Arg  
 210 215 220  
 Lys Leu Ala Thr Ala Gly Asp Gln Gly Leu Leu Leu Gln Ser Leu Asn  
 225 230 235 240  
 Ala Leu Ser Val Leu Thr Asp Gly Gln Pro Asp Leu Leu Asp Ala Gln  
 245 250 255  
 Gly Leu Gln Leu Leu Val Ala Thr Leu Thr Gln Asn Ala Asp Glu Ala  
 260 265 270  
 Asp Leu Thr Cys Ser Gly Ile Arg Cys Val Arg His Ala Cys Leu Lys  
 275 280 285  
 His Glu Gln Asn Arg Gln Asp Leu Val Lys Ala Gly Val Leu Pro Leu  
 290 295 300  
 Leu Thr Gly Ala Ile Thr His His Gly His His Thr Asp Val Val Arg  
 305 310 315 320  
 Glu Ala Cys Trp Ala Leu Arg Val Met Thr Phe Asp Asp Asp Ile Arg  
 325 330 335  
 Val Pro Phe Gly His Ala His Asn His Ala Lys Met Ile Val Gln Glu

340 345 350  
 Asn Lys Gly Leu Lys Val Leu Ile Glu Ala Thr Lys Ala Phe Leu Asp  
 355 360 365  
 Asn Pro Gly Ile Leu Ser Glu Leu Cys Gly Thr Leu Ser Arg Leu Ala  
 370 375 380  
 Ile Arg Asn Glu Phe Cys Gln Glu Val Val Asp Leu Gly Gly Leu Ser  
 385 390 395 400  
 Ile Leu Val Ser Leu Leu Ala Asp Cys Asn Asp His Gln Met Arg Asp  
 405 410 415  
 Gln Ser Gly Val Gln Glu Leu Val Lys Gln Val Leu Ser Thr Leu Arg  
 420 425 430  
 Ala Ile Ala Gly Asn Asp Asp Val Lys Asp Ala Ile Val Arg Ala Gly  
 435 440 445  
 Gly Thr Glu Ser Ile Val Ala Ala Met Thr Gln His Leu Thr Ser Pro  
 450 455 460  
 Gln Val Trp Glu Gln Ser Cys Ala Ala Leu Cys Phe Leu Ala Leu Arg  
 465 470 475 480  
 Lys Pro Asp Asn Ser Arg Ile Ile Val Glu Gly Gly Gly Ala Val Ala  
 485 490 495  
 Ala Leu Gln Ala Met Lys Ala His Pro Gln Lys Ala Gly Val Gln Lys  
 500 505 510  
 Gln Ala Cys Met Leu Ile Arg Asn Leu Val Ala His Gly Gln Ala Phe  
 515 520 525  
 Ser Lys Pro Ile Leu Asp Leu Gly Ala Glu Ala Leu Ile Met Gln Ala  
 530 535 540  
 Arg Ser Ala His Arg Asp Cys Glu Asp Val Ala Lys Ala Ala Leu Arg  
 545 550 555 560  
 Asp Leu Gly Cys His Val Glu Leu Arg Glu Leu Trp Thr Gly Gln Arg  
 565 570 575  
 Gly Asn Leu Ala Pro  
 580

<210> 5113  
 <211> 472  
 <212> DNA  
 <213> Homo sapiens

<400> 5113  
 cagactatgg tccagcctct gctccatgtg cccctgtgg gtctttgtga tctcagtcct  
 60  
 ggcaccttga cccgctgctt gttctgctct cctttaaact ccatgcacct gacacctgta  
 120  
 attggcacgc agcgcggagc ctggcacctg cagtgtagac aactggcca ccgctcagt  
 180  
 caagagggcc cctttgctaa tgtgcacagc tctttatgcc ttttttcccta tgcctttttg  
 240  
 gattggagca agagattttt ttttccaagt aaagaacaat ttatgttctt aaatactttt  
 300  
 tttccttgac atgatgaagt tgagcaaggt ggctatagaa ctttttttct taattttatt  
 360  
 gcccaagtaa tggtctttac aaagtaggga aatacagata cataaaaaga agactgccaa  
 420  
 tccccgtaa tcccaccagt cgcattcccta cccgctctta ggagattccg ga  
 472

<210> 5114  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 5114  
 Met Val Gln Pro Leu Leu His Val Pro Pro Val Gly Leu Cys Asp Leu  
 1 5 10 15  
 Ser Pro Gly Thr Leu Thr Arg Cys Leu Phe Cys Ser Pro Leu Asn Ser  
 20 25 30  
 Met His Leu Thr Pro Val Ile Gly Thr Gln Arg Gly Ala Trp His Leu  
 35 40 45  
 Gln Cys Arg His Thr Gly His Arg Ser Val Gln Glu Gly Pro Phe Ala  
 50 55 60  
 Asn Val His Ser Ser Leu Cys Leu Phe Ser Tyr Ala Phe Leu Asp Trp  
 65 70 75 80  
 Ser Lys Arg Phe Phe Phe Pro Ser Lys Glu Gln Phe Met Phe Leu Asn  
 85 90 95  
 Thr Phe Phe Pro  
 100

<210> 5115  
 <211> 1003  
 <212> DNA  
 <213> Homo sapiens

<400> 5115  
 ntntntntntt tntntntntt tntntntntt tntntntntt tntntnttag ccacaaaaca  
 60  
 ttttatttac aaaatatata ctgaatacta tacatctggc cccatcacca tggaaacaac  
 120  
 tccaaagcct gcctggggat ttgtgcccac gccagccca ggagggctag agaaagcaaa  
 180  
 ggtgtctacc agccgcccgc atcccagaag gaaagcctct tcccatgagt gcctgtgggt  
 240  
 gggcggtgag ctcaacaccc acaaagggca gaaggcctgg gggcagtgag gtgatgggta  
 300  
 gggcatggga agcagatgct gctgaggggtg ggtggaggga gaaatggaga cccagcacc  
 360  
 agcaggggga gccaggtgac agcaggggaa gcagatggca gggcccagg cagtccagga  
 420  
 cccaggtc tgaaggggtg ggcaaggggg tcaggtcacg tcttgacatc cagcagtggc  
 480  
 tccgcttggt ctggtagccc actctgcccc gccatgtccc accttgggggt ctcccatgtc  
 540  
 agagagcagc tctgtctcag catcatgcag ttcctcagct gggcatagc tgtacatggg  
 600  
 gagcaggtgc atgcgcagcc ggtccaccgc ctttttcttc tgtacataca ttaccacagc  
 660  
 caccaccacc ccgaccaggg tgatgaggaa gaagggcccc aacacatagc ccaccatgga  
 720  
 gtcgctgttg gcctgggggg cattgggcac agtgggtgta ctcatgacat cagcagccgg  
 780

agggctgggt ggtagcatg ggcagtggcg cttagggagg gcgcctccac tgggctcccc  
 840  
 agtcgtatgc tcatcgtccc aggtcaaggg ggcattgccag ggtggggagg gcgtcaggcc  
 900  
 gctgctagga tgcggggccag caacagcgga ncaggaggtg gttcccacgg cgctgggnag  
 960  
 gctcagccg gaggtggggg tgttggggga tgctgatggg tcg  
 1003

<210> 5116

<211> 226

<212> PRT

<213> Homo sapiens

<400> 5116

Met	Leu	Leu	Arg	Val	Gly	Gly	Gly	Arg	Asn	Gly	Asp	Pro	Ala	Pro	Ser
1				5					10					15	
Arg	Gly	Ser	Gln	Val	Thr	Ala	Gly	Glu	Ala	Asp	Gly	Arg	Ala	Pro	Gly
			20					25					30		
Ser	Pro	Gly	Pro	Gln	Ala	Leu	Lys	Gly	Gly	Ala	Arg	Gly	Ser	Gly	His
		35					40					45			
Val	Leu	Thr	Ser	Ser	Ser	Gly	Ser	Ala	Cys	Ala	Gly	Ser	Pro	Leu	Cys
	50					55					60				
Pro	Ala	Met	Ser	His	Leu	Gly	Val	Ser	His	Val	Arg	Glu	Gln	Leu	Leu
65					70					75				80	
Leu	Ser	Ile	Met	Gln	Phe	Leu	Ser	Trp	Val	Ile	Ala	Val	His	Gly	Glu
				85					90					95	
Gln	Val	His	Ala	Gln	Pro	Val	His	Pro	Leu	Phe	Leu	Leu	Tyr	Ile	His
			100					105					110		
Tyr	His	Ser	His	His	His	Pro	Asp	Gln	Gly	Asp	Glu	Glu	Glu	Gly	Pro
		115					120					125			
Gln	His	Ile	Ala	His	His	Gly	Val	Ala	Val	Gly	Leu	Gly	Gly	Ile	Gly
	130					135					140				
His	Ser	Gly	Val	Thr	His	Asp	Ile	Ser	Ser	Arg	Arg	Ala	Gly	Trp	Ser
145					150					155				160	
Ala	Trp	Ala	Val	Ala	Leu	Arg	Glu	Gly	Ala	Ser	Thr	Gly	Leu	Pro	Ser
				165					170					175	
Arg	Met	Leu	Ile	Val	Pro	Gly	Gln	Gly	Gly	Met	Pro	Gly	Trp	Gly	Gly
		180						185					190		
Arg	Gln	Ala	Ala	Ala	Arg	Met	Arg	Ala	Ser	Asn	Ser	Gly	Xaa	Gly	Gly
	195						200					205			
Gly	Ser	His	Gly	Ala	Gly	Xaa	Ala	His	Ala	Gly	Gly	Gly	Gly	Val	Gly
	210					215					220				
Gly	Cys														
225															

<210> 5117

<211> 1180

<212> DNA

<213> Homo sapiens

<400> 5117

nngaattcaa cttgttcaag agaaggtctt gtacgtgcct aagttctaga gcctcctgac  
 60



gtgagcatgg ctgagagtga ggaccgctcc ctgaggatcg ttctggtagg gaaaactgga  
 120  
 agtgggaaaa gtgcaacagc gaacaccatc cttgggagagg aaatctttga ttctagaatt  
 180  
 gctgcccagg ctgttaccaa gaactgtcaa aaagcatccc gggaatggca ggggagagac  
 240  
 cttcttggtg tagacactcc agggctcttt gacaccaagg agagcctgga caccacctgc  
 300  
 aaggaaatca gccgctgcat catctcctcc tgcccagggc cccatgctat tgtcctagtt  
 360  
 ctgctgctgg gccgctacac agaggaggag cagaaaaccg ttgcattgat caaggctgtc  
 420  
 ttgggaagt cagccatgaa gcacatggtc atcttggtca ctgcgaaaga agagttggag  
 480  
 ggccagagct tccatgactt catagcagat gcggatgtgg gcctaaaaag catcgtcaag  
 540  
 gagtgcggga accgctgctg tgccttttagc aacagcaaga aaaccagtaa ggcagagaag  
 600  
 gaaagtcaag tgcaggagtt ggtggagctg atagagaaaa tgggtgcagtg caacgaaggg  
 660  
 gcttactttt ctgatgacat atacaaggac acagaggaaa ggctgaaaca acgggaagag  
 720  
 gttttgagga aaatctacac tgaccaatta aatgaagaaa ttaaactagt agaagaggat  
 780  
 aagcataaat cagaggaaga aaaggagaaa gaaattaaat tactaaaatt aaaatatgat  
 840  
 gaaaaaataa aaaatataag ggaagaagct gagagaaata tatttaaaga tgttttta  
 900  
 aggatttgga agatgctttc agaaatatgg cataggtttt tgtcgaaatg taagttttat  
 960  
 tcttcctaatt ttactgtgat ttgttaatgg atgaattgta ttttgcaaag atagttagag  
 1020  
 aaatacctcc ttccccttag ctttattaag gtatcattga taaataaaaa taaaatatgt  
 1080  
 ttaatgtata taatgtgatt tttaaataata tatatatata tatacacaca ttgtgaaata  
 1140  
 atgaaataaa ggtaattaac acatctaaaa aaaaaaaaaa  
 1180

&lt;210&gt; 5118

&lt;211&gt; 300

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5118

Met	Ala	Glu	Ser	Glu	Asp	Arg	Ser	Leu	Arg	Ile	Val	Leu	Val	Gly	Lys
1				5				10				15			
Thr	Gly	Ser	Gly	Lys	Ser	Ala	Thr	Ala	Asn	Thr	Ile	Leu	Gly	Glu	Glu
			20					25				30			
Ile	Phe	Asp	Ser	Arg	Ile	Ala	Ala	Gln	Ala	Val	Thr	Lys	Asn	Cys	Gln
		35				40					45				
Lys	Ala	Ser	Arg	Glu	Trp	Gln	Gly	Arg	Asp	Leu	Leu	Val	Val	Asp	Thr
	50					55				60					
Pro	Gly	Leu	Phe	Asp	Thr	Lys	Glu	Ser	Leu	Asp	Thr	Thr	Cys	Lys	Glu

65					70					75					80
Ile	Ser	Arg	Cys	Ile	Ile	Ser	Ser	Cys	Pro	Gly	Pro	His	Ala	Ile	Val
				85					90					95	
Leu	Val	Leu	Leu	Leu	Gly	Arg	Tyr	Thr	Glu	Glu	Glu	Gln	Lys	Thr	Val
			100					105					110		
Ala	Leu	Ile	Lys	Ala	Val	Phe	Gly	Lys	Ser	Ala	Met	Lys	His	Met	Val
		115					120					125			
Ile	Leu	Phe	Thr	Arg	Lys	Glu	Glu	Leu	Glu	Gly	Gln	Ser	Phe	His	Asp
	130					135					140				
Phe	Ile	Ala	Asp	Ala	Asp	Val	Gly	Leu	Lys	Ser	Ile	Val	Lys	Glu	Cys
145				150						155					160
Gly	Asn	Arg	Cys	Cys	Ala	Phe	Ser	Asn	Ser	Lys	Lys	Thr	Ser	Lys	Ala
			165					170						175	
Glu	Lys	Glu	Ser	Gln	Val	Gln	Glu	Leu	Val	Glu	Leu	Ile	Glu	Lys	Met
		180						185					190		
Val	Gln	Cys	Asn	Glu	Gly	Ala	Tyr	Phe	Ser	Asp	Asp	Ile	Tyr	Lys	Asp
	195						200					205			
Thr	Glu	Glu	Arg	Leu	Lys	Gln	Arg	Glu	Glu	Val	Leu	Arg	Lys	Ile	Tyr
	210					215					220				
Thr	Asp	Gln	Leu	Asn	Glu	Glu	Ile	Lys	Leu	Val	Glu	Glu	Asp	Lys	His
225				230						235					240
Lys	Ser	Glu	Glu	Glu	Lys	Glu	Lys	Glu	Ile	Lys	Leu	Leu	Lys	Leu	Lys
			245					250						255	
Tyr	Asp	Glu	Lys	Ile	Lys	Asn	Ile	Arg	Glu	Glu	Ala	Glu	Arg	Asn	Ile
		260					265						270		
Phe	Lys	Asp	Val	Phe	Asn	Arg	Ile	Trp	Lys	Met	Leu	Ser	Glu	Ile	Trp
	275					280						285			
His	Arg	Phe	Leu	Ser	Lys	Cys	Lys	Phe	Tyr	Ser	Ser				
	290					295					300				

&lt;210&gt; 5119

&lt;211&gt; 1450

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5119

nnaatgatga atatcaaaga ttaaagcact tcactaaatc ttgtattttt tcccaaaata  
60  
cagctggtga aaatccttacc cttgagtaga aaggaatcaa acaagtcata taccaccgt  
120  
cttctgtgtc gtactggaac catcacaggc ttttgaggaa ctacttttga accgttcccc  
180  
agagaggcat ttgccccagt agctatgatt ataatttgca atgacagcca cagtgatctc  
240  
atccttctgg gcttctctaa caagccacat ttggagaaga tactttttng gatcattttt  
300  
attttttatt ttttgactct tgcaggaaat atggcatag ttcttgtgtc cttgaaggat  
360  
ccaaaactcc acatccctat gtatttcttt ctttccaacc tttccttggg agacctctgt  
420  
ttgaccagca gctgtgttcc acagatgttg attaacttct ggggcccaga aaagaccatc  
480  
agctacattg gctgtgccat tcaactctat gtttttttgt ggcttggggc cacggaatat  
540

gtccttcttg ttgtcatggc tgtggattgt tatgtagcag tgtgtcatcc actgcaaaat  
 600  
 accatgatca tgcacccaaa actttgtctg cagctggcta tcttggcatg ggggactggc  
 660  
 ttggcccagt ctctgatcca gtccctgcc accctccggt tacccttctg ctcccagcgg  
 720  
 atggtggatg atgttgtttg tgaagtccea gctctgattc agctctccag tactgatact  
 780  
 acctacagtg aaattcagat gtctatcgcc agtgttggtc tcctgggtgat gcccttgatc  
 840  
 attatccttt cctcttctgg tgctattgct aaggctgtgc tgagaattaa gtcaactgca  
 900  
 ggacagaaga aagcatttgg cacctgcac tctcaccttc ttgtggtttc tctcttttat  
 960  
 ggcactgtca cagggtgtcta cttcaacca aaaaatcact atcctcatga atggggcaaa  
 1020  
 tttctcactc tttctacac tgtagtaacc ccaactctta atccctcat ctacactcta  
 1080  
 aggaacaagg aggtaaagg agcactaata agattgggga ggaggacctg ggattcccag  
 1140  
 aataactaac aaggttaaca tatgtttacc ttgcttaac ctaagaatag agaacaacct  
 1200  
 catcacaaaa agctggagat acacctccta agccaaaagt aggagagaaa gagctgcatt  
 1260  
 ctgttcaggt tgagatttca gtttccttca tcaatcaatt gggcccttaa attcttcata  
 1320  
 ttgtggattt agacacagta tgggtataaaa attaatatat ttaatagcta ttgtcttgaa  
 1380  
 aaggacacaa tgcaattgaa tgggggagga ggagaagaca caagaaacac attacttgca  
 1440  
 aaataaaata  
 1450

<210> 5120  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

<400> 5120  
 Met Ile Ile Ile Cys Asn Asp Ser His Ser Asp Phe Ile Leu Leu Gly  
 1 5 10 15  
 Phe Ser Asn Lys Pro His Leu Glu Lys Ile Leu Phe Xaa Ile Ile Phe  
 20 25 30  
 Ile Phe Tyr Phe Leu Thr Leu Ala Gly Asn Met Val Ile Val Leu Val  
 35 40 45  
 Ser Leu Lys Asp Pro Lys Leu His Ile Pro Met Tyr Phe Phe Leu Ser  
 50 55 60  
 Asn Leu Ser Leu Val Asp Leu Cys Leu Thr Ser Ser Cys Val Pro Gln  
 65 70 75 80  
 Met Leu Ile Asn Phe Trp Gly Pro Glu Lys Thr Ile Ser Tyr Ile Gly  
 85 90 95  
 Cys Ala Ile Gln Leu Tyr Val Phe Leu Trp Leu Gly Ala Thr Glu Tyr  
 100 105 110  
 Val Leu Leu Val Val Met Ala Val Asp Cys Tyr Val Ala Val Cys His

```

      115      120      125
Pro Leu Gln Asn Thr Met Ile Met His Pro Lys Leu Cys Leu Gln Leu
      130      135      140
Ala Ile Leu Ala Trp Gly Thr Gly Leu Ala Gln Ser Leu Ile Gln Ser
145      150      155      160
Pro Ala Thr Leu Arg Leu Pro Phe Cys Ser Gln Arg Met Val Asp Asp
      165      170      175
Val Val Cys Glu Val Pro Ala Leu Ile Gln Leu Ser Ser Thr Asp Thr
      180      185      190
Thr Tyr Ser Glu Ile Gln Met Ser Ile Ala Ser Val Val Leu Leu Val
      195      200      205
Met Pro Leu Ile Ile Ile Leu Ser Ser Ser Gly Ala Ile Ala Lys Ala
      210      215      220
Val Leu Arg Ile Lys Ser Thr Ala Gly Gln Lys Lys Ala Phe Gly Thr
225      230      235      240
Cys Ile Ser His Leu Leu Val Val Ser Leu Phe Tyr Gly Thr Val Thr
      245      250      255
Gly Val Tyr Leu Gln Pro Lys Asn His Tyr Pro His Glu Trp Gly Lys
      260      265      270
Phe Leu Thr Leu Phe Tyr Thr Val Val Thr Pro Thr Leu Asn Pro Leu
      275      280      285
Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Gly Ala Leu Ile Arg Leu
      290      295      300
Gly Arg Arg Thr Trp Asp Ser Gln Asn Asn
305      310

```

&lt;210&gt; 5121

&lt;211&gt; 944

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5121

```

nngcgcgccca ggggagggcg ccgtgtggca ctcggcggtc gaaaggggag ttcaaggaga
60
cgggggcgac gcggctgagg gcttctcgtc ggggtcgggg ctgcagccgt catgccgggg
120
atagtggagc tgcccactct agaggagctg aaagtagatg aggtgaaaat tagttctgct
180
gtgcttaaag ctgcggccca tcaactatgga gctcaatgtg ataagcccaa caaggagttt
240
atgctctgcc gctgggaaga gaaagatccg aggcggtgtt tagaggaagg caaactggtc
300
aacaagtgtg ctttggactt ctttaggcag ataaaacgtc actgtgcaga gccttttaca
360
gaatattgga cttgcattga ttatactggc cagcagttat ttcgtcactg tcgcaaacag
420
caggcaaagt ttgacgagtg tgtgctggac aaactgggct ggggtgcggcc tgacctggga
480
gaactgtcaa aggtcaccaa agtgaaaaca gatcgacctt taccggagaa tccctatcac
540
tcaagaccaa gaccggatcc cagccctgag atcgaggag atctgcagcc tgccacacat
600
ggcagccgct tttatttctg gaccaagtaa agatgggtcc gtggcccaca ctcggtcatg
660

```

tgctcagaca acgactgatg aaaacgccca tgcggtttgc atcgactgat agtgtgttct  
 720  
 ttccgggatc acaaacatta acaaaaaagt taacttatgt gacttggcag ttattctata  
 780  
 ccatttcctg tccattaaaa tttttaaagg aaacggttgt attttattat gttttatgtg  
 840  
 accttttggc ctttaaagat gacttcccct tgcttttttc ttcttgtggt cctgcctgtt  
 900  
 cctcttgctt tgctttaggc actcgctcat gtggctgggg atcc  
 944

<210> 5122  
 <211> 172  
 <212> PRT  
 <213> Homo sapiens

<400> 5122  
 Met Pro Gly Ile Val Glu Leu Pro Thr Leu Glu Glu Leu Lys Val Asp  
 1 5 10 15  
 Glu Val Lys Ile Ser Ser Ala Val Leu Lys Ala Ala Ala His His Tyr  
 20 25 30  
 Gly Ala Gln Cys Asp Lys Pro Asn Lys Glu Phe Met Leu Cys Arg Trp  
 35 40 45  
 Glu Glu Lys Asp Pro Arg Arg Cys Leu Glu Glu Gly Lys Leu Val Asn  
 50 55 60  
 Lys Cys Ala Leu Asp Phe Phe Arg Gln Ile Lys Arg His Cys Ala Glu  
 65 70 75 80  
 Pro Phe Thr Glu Tyr Trp Thr Cys Ile Asp Tyr Thr Gly Gln Gln Leu  
 85 90 95  
 Phe Arg His Cys Arg Lys Gln Gln Ala Lys Phe Asp Glu Cys Val Leu  
 100 105 110  
 Asp Lys Leu Gly Trp Val Arg Pro Asp Leu Gly Glu Leu Ser Lys Val  
 115 120 125  
 Thr Lys Val Lys Thr Asp Arg Pro Leu Pro Glu Asn Pro Tyr His Ser  
 130 135 140  
 Arg Pro Arg Pro Asp Pro Ser Pro Glu Ile Glu Gly Asp Leu Gln Pro  
 145 150 155 160  
 Ala Thr His Gly Ser Arg Phe Tyr Phe Trp Thr Lys  
 165 170

<210> 5123  
 <211> 1139  
 <212> DNA  
 <213> Homo sapiens

<400> 5123  
 nngtgcacaa ccaactgtctt ccogtggcct cactgcccc ttgccctagg gcccttccct  
 60  
 tggctctgtg ccagcctcgg gggacctcag gctcaccaac tctgaggctg agagttccaa  
 120  
 agccatagga tagatcctgg agcttccctg agcctgtttt cttgcctggg agttagccat  
 180  
 gccttgtggg gctgccaaga gggtaaagta gagagatggg tctagcttga tacagtatag  
 240

gcagctgctg gatgtcagct gtggttatga tcagctccat cttgttatga tgaagaccct  
 300  
 gaggtcagag tggacccac cccaaagccc catctggcag ctcacagctg ctctctccta  
 360  
 cagaaacagg cttgcatgct gatccgaaac ctggtggccc acggccaggc cttctcgaag  
 420  
 cccatcctgg acctgggggc tgaggcactc atcatgcagg cccgatctgc ccaccgtgac  
 480  
 tgtgaggacg tggccaaggc cgccctgcgg gacctggggt gtcatgtcga gctccgagag  
 540  
 ctgtggacag gccagagggg caacctggcg ccatgacccc agggccagtc tgggccgtga  
 600  
 ctctgggtga gtcgtgtgac tcaggaatgg gggtagatcc atgtcctcca ctgtcccca  
 660  
 ttagttctgt ccccttcaca atgagaagtg ttttctggca ggccctaggt aaagggtcgg  
 720  
 gggagggggg agcctttag ggaggcctct acacagaaga aagcagcccc catgtcccag  
 780  
 ccacttctgg gtcccagcca gcagcacgga tgttactgtc ctgctccttc cccagcccc  
 840  
 acgccctacc agagggggca aagggcacgt cccatcactc actgccctgt ctgaaatgtg  
 900  
 gcagccactg tgggccaggc tcagggcagg gcaggcgatt ccagtgggggt tgggccccct  
 960  
 ggcgcctgct gcttactgca gtttcatgca ggcctctgct ccttgtcttt cttacctgta  
 1020  
 aaatgggtct cagatgctcc gccctgcttg gccccagctt gtctgtctct gggctcctggg  
 1080  
 ccagccagga tacctgataa taaaagatca ttgggtgaaa aaaaaaaaaa aaaaaaaaaa  
 1139

&lt;210&gt; 5124

&lt;211&gt; 101

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5124

Ser	Ala	Pro	Ser	Cys	Tyr	Asp	Glu	Asp	Pro	Glu	Val	Arg	Val	Asp	Pro
1				5					10					15	
Thr	Pro	Lys	Pro	His	Leu	Ala	Ala	His	Ser	Cys	Ser	Leu	Leu	Gln	Lys
		20						25					30		
Gln	Ala	Cys	Met	Leu	Ile	Arg	Asn	Leu	Val	Ala	His	Gly	Gln	Ala	Phe
		35					40					45			
Ser	Lys	Pro	Ile	Leu	Asp	Leu	Gly	Ala	Glu	Ala	Leu	Ile	Met	Gln	Ala
	50					55					60				
Arg	Ser	Ala	His	Arg	Asp	Cys	Glu	Asp	Val	Ala	Lys	Ala	Ala	Leu	Arg
65				70					75					80	
Asp	Leu	Gly	Cys	His	Val	Glu	Leu	Arg	Glu	Leu	Trp	Thr	Gly	Gln	Arg
				85					90					95	
Gly	Asn	Leu	Ala	Pro											
				100											

&lt;210&gt; 5125

&lt;211&gt; 6244

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5125

ngcccacccg atccaggacc acaccattca tggggatcat agataaaaca gcacggactc  
60  
agcagtaccc ccacctccac cagcagaatc ggacctgggc agtgtcatct gtggacaccg  
120  
tcctcagtcc cacgtctcca ggcaacctgc ctcagcctga gtccttcagt ccaccatcat  
180  
ccatcagcaa cattgccttt tataacaaaa ccaacaatgc acagaatggc catttgctgg  
240  
aggacgatta ttacagcccc catgggatgc tggctaacgg gtctcgtgga gacctcttgg  
300  
agcgagtcag ccaggcctcc tcctatcccc acgtgaaggt agctcggact ctacctgtgg  
360  
ctcaggcata ccaggacaac ctgtacaggc agctgtcccc agactctcgg caagggcaga  
420  
catccccat caaaccaaag agaccgttcg tggagtctaa tgtttaaaag acgttttgtt  
480  
ggagtgagac ccatatgttt tcaactgcaca ttttcaggct tggtttccac attcgaggta  
540  
gttctctggc ttaattttct atgtagtttc tgtgtggtgt tcagaggtgg cagcccacat  
600  
gctgaaatcc tttgcatgca gccgactggg aagcggcctc ccgggagcca ggacttcagt  
660  
ttctcttgct tgtgcccagc cacatgctct ctccctctct tcagatgcca acgaggagat  
720  
tttcgtgctg tgtgctttta ccagggaga tcagacacac tggtcagctt tttccaggag  
780  
acaatcgctt tcaactgatgt tcttgttgtg taattgtctt tttccttttt taaaaataa  
840  
gggtgttcttg ttcgttttct tctagaaact ttagaaagag tgcgatgccc ctttgccttt  
900  
gcataccttag ccagtgtcac ccacacagcc agccgcagcg cattctcatg ctgtggcccc  
960  
tccccagacc gccagcgccc tgcagccacc aggtctgcag tgtgcattag gattattgct  
1020  
gggtcttccta gggggtaaaa ggatcagaga gagaagaatt aagtgctaaa ttggaagaaa  
1080  
accccaatat agttatgtaa aatgtcacta cattgatttt ccaagaggca ttgtaggaa  
1140  
atgtcaaaaa cagccagccc tttaaatatt gcagtcagcc aaggaaatta gatgagaatt  
1200  
gtggctatta agagaattca ctgagagtta ttctctagat ttttagccga caattaacca  
1260  
ctaaaagctg ctgcttttcc aggggtggggg agggaaatgaa tacatagaaa aacaaaaaag  
1320  
attgttctgg attctcagt aaaggctata ggaagtctgt tctggagaca tctacttttt  
1380  
agatcctgat acatcactga gtgtcatact ccactaaaag gaaactctaa ccgaaggctg  
1440  
gctgggtgta caatcccgtt agttggatct tcacctacag ccagattttg ctctagtggc  
1500

cctcttcctg taaaccaga tggcgtcata cagaaattgt ttctttcaga agcagattgg  
1560  
aatctcttgg gaccatgaga ctgagtccca atatttccac ccagggtcat gcccgttgtt  
1620  
gtctacttcc attttgagat ctatagtttg attatctatt attacaggaa ctgtttcttt  
1680  
tctttttcta ggagtgttta tgagagtgtg atattttaaa gtcagacgca gcaaaaactg  
1740  
tttcagggtg aagaaagacc cctttcagcc ctgttttgca gccctgggtg ggggcatgag  
1800  
atagacagca agcttctgat cttgaagctt gtctagaaga cacatcttct aggtctctgtg  
1860  
gtcatttggg aggtgacct ttgagtgagc gaggccacta ttgagtggat agcaagaaca  
1920  
ttggaaccaa agcctcggca caggcctggc actggctgta catcagctct tacaactaaa  
1980  
caactcaact aagcaactga aacgaaacaa aggagcattc gttctctgtt gttaggaatc  
2040  
attctgctct gttagggaag ggctgcagga agggcagttt cctgaataaa aatctggctg  
2100  
cgaccagtcc catgtgtctg gtaagtaagt aagtaagtaa gtgccctttg aagggatcat  
2160  
taagacacag ggagcatgaa cctgagatca gaagcatttc ttactaatt tagattctgc  
2220  
gaaatagacg gacctctcca ccccaaacc taaaacaggc caggacttgt ctctgtgctg  
2280  
aaagcaaata gcaagactaa ctcaagcccc agcctctttc cacactccct gatacctaag  
2340  
gactgctttc tcagctagac cagggtgggc atcagcgacg ccttctcagc tagaccaggg  
2400  
taggcatcag cgtcctctct ccctctctat acccctctct ctccatcag gaagatgaaa  
2460  
tgtgtagctc tagcggcaac ctctagccag gagcccagtg gcctctcaga ttgctttttg  
2520  
gccagggtctc agcactgctg gcatctttac atcttactcc ttaaaaccgc ctctcgctga  
2580  
ggagccactg cttttgaag aatttctcag tgtctgtcag gaaagtactc ctgctcattt  
2640  
ggaacgccac acaccacccg cactcacctg tccaggcgaa tgagcaggtc ctgtagcttt  
2700  
acaaatatgc cgtgatgcc gcttctcccc agggctctct agttttccag gacaaaaaga  
2760  
tttagggcct ataccctatg ggcaaaacac ctaaaatgtc aacagtcaaa atgccattct  
2820  
ttttggccat cataagaggg agtaggtatc actgctgcat gccagttgtt tttgactaga  
2880  
atatgccaac cagagcttgt tggggcagga gacgtttttc cttacaagca gactgcctgt  
2940  
gccctgtgcc ctgtttgcta ctctactgcc atggaatgat ccgagtactg tatttcagag  
3000  
ctgccccctc ccagcagca aacactcgct gagtccatgt ctggcttcag gtgggaggaa  
3060  
atgtttcaga tgaaacttac tcaattcata ccaccctgaa atggaggaca gaggtgacaa  
3120



acttcagttt aataggtttc tcaccaagtt gtatgttcca ttggcccagg attcttgcac  
3180  
taatgggttt ctatcacatc atgtctataa atgggtgcac ttactgttt gaatttgtaa  
3240  
ctgaagtact ggatatttaa gtgtgagtaa tgtcttcatt agaaaatagc agaaccgctc  
3300  
ttgtctttta gtgtattttt caagaaaaaa ggaaaggaaa gacatcaagc agtggatcac  
3360  
aacatttata gcacaagaaa taacttgtat ataagcatca aaaagattaa gaatttttta  
3420  
atatgaaaaa tatttgcagt gatttttaaag tgcttttcca gcaatgttct tagggactcc  
3480  
tgagacacgg ttactttatc tactggatca gtaaggcaca caattaacaa ttaacaatta  
3540  
atgtttattt acaaagtaaa gggaaaacct gtgtaacatg agaatttggc atgacaaaat  
3600  
ggagaccatt ttgtatctgc tgttgtatct tgtccgggtt gcagacgtgc actattaaag  
3660  
tccaagtta atagagcaca aacccttctc gtcctctccc catgtgcccc tctttttaga  
3720  
tgtgtataac ttaaactcga tggctcagga aaattccact aattagaatc atgtacagta  
3780  
ccccaggctc ttgtccagat atacaagttt gctaattgtag ttaagcctgg attattaaac  
3840  
acttttccta aattattgta aacagaacag cttagagaaa ggtattctca gtccttaata  
3900  
ttgtatagta gtttatgagc ccctctctaa atattggtat ttttatattc cagagatgta  
3960  
cccaatagaa aaaattaaaa attaatcagt atctaattta atatccataa gtatttttcc  
4020  
ttagatttta gtcacgtaca gtgggctatg tggatgtcac ttgtgcttca ccatagttta  
4080  
ccactagggtg tcaactgtggc tctgcactgc gcttggtttg tagcaaagaa cagcggcatc  
4140  
ccctcgggag agaggagctg cttccagggc aacaggcaag cgggctcaga ggttcaggag  
4200  
aaggcaacag aggcctggaa ggggtcttcg tgcactctgtg ccagttgtgc aagacgatct  
4260  
ctttgaacac tacatgcttt ggacttcagc caggcagagg ctggaagaag gttgaccaga  
4320  
gtcccttgc tctggtagag ggatgggtac atggagaagc cccttcttcc ccatgagcct  
4380  
ccctcctgtc agttcctctc agcctccagc ttttataact ccagaagcgt cacagttggg  
4440  
tggtttgatt cagagagagt tatttttcta ctgcagaaat gccttggaca aaaccagtgc  
4500  
tcaactgaatc tttgccacaa aatggaatag gctatccag ggggcaagag gtgcccgc  
4560  
ctgtgcccag cctcctcttg atgtcccag tgcccagcag cctcgcacac cctgctgtc  
4620  
tgttcttggg ctgcccattt ctcaagaaac cgacctgcaa aggcagccgg ctgctgcctc  
4680  
cacaccgagg gctgtgcggt cctgctgctc gctcactggg aggtgcagct ctttctctc  
4740

ttcctctagg aattccagac cgaccatcta ccatgactaa caacaatgaa caaagggcctt  
4800  
aggggcaaga gctacctgca aagacgtgtc atggaaccct tcaccatgca atgccttgaa  
4860  
ctcagctctg gctgctccca agaaaagggtg gctggctggg ggcttgga caagcacaat  
4920  
ggggctgggtg gagccactgt gcagagctac ttgaataatc actgggtttt catcaactcc  
4980  
ttttgtcata cagaccactc aagggtgtaa gtgttggtaa ccttcatttc ggtgtccaaa  
5040  
gcctcacagc aggtgagcca ccctgagatg cttgtggcca catggtggcc acagtacagag  
5100  
ctttgaaagt cagtacaaa tgaacgcata attggacacc aaaaatcaag tgttactttc  
5160  
atgtttcctc accccatcat ctcatgtcct cctgctgact ctgataccga cgctgagctg  
5220  
acttgccagg ctgccgtgg acgcgtagag atcaggccag cgccgcgtc atttttccag  
5280  
gtagacctac tctgtggaac ggaagtgcc tagctgcttt gttttttag cacttgctgg  
5340  
ctgaattttt cttttgctaa tcgctaacca gaaagtctgg ttagaggggg ctcaactcaa  
5400  
tccttttggc cccagcgcc agacaagagt taattctgga aaattcagta cttgaatgta  
5460  
cctgccttat tgcataccaa ttactgggg ggaaaaaaaa agttaagaga tgccggctcc  
5520  
agatctccac ttcattcaca ggtgattttg gaaatcctgt aagttacact tcctgttctg  
5580  
gtttttgttt gttttttgtt tcctttggct gattcctgct gagtgaggcc agttcctcat  
5640  
caggctcagg gcaggcgct tttcaggcgt ggctccttt ccatctagca cagcatcttt  
5700  
gtctctgttc tgtctcctcc aaatccaaga tgattttaat tagtacagac atgtacagtc  
5760  
tacaattaaa gagtgatttg tactaatatg attttgattc ttctcctctt ttgctgtcct  
5820  
ttcaagacac ttgctggaaa aagctttaat gcacttagtt ttcttttagg tttctatga  
5880  
ctcagatgta aaggactttc tctgtacagt atattatcca atgcatgttt gttctctctc  
5940  
ctgatataatt gaacaccaca cagttgtgaa gccgtgcagt ggggatgccc cacacccac  
6000  
agaggcatct acccctgtgt ataaggaaag acattttcct ttgctgtact tgcttgagca  
6060  
gttttattgt ctgtacatgt gagctgtgtg agatagatgt gaaaagttca aatgaatgca  
6120  
tttctctgcc ccatgtatac agattgtcat ctgtacaagg aactgtatgt atgaaagcaa  
6180  
atgtacttat ttataaatgg ctaacacttg gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
6240  
aaaa  
6244

&lt;210&gt; 5126

<211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 5126

```

Met Phe Lys Arg Arg Phe Val Gly Val Arg Pro Ile Cys Phe His Cys
 1           5           10           15
Thr Phe Ser Gly Leu Val Ser Thr Phe Glu Val Val Leu Trp Leu Asn
          20           25           30
Phe Ser Cys Ser Phe Cys Val Val Phe Arg Gly Gly Ser Pro His Ala
          35           40           45
Glu Ile Leu Cys Met Gln Pro Thr Gly Lys Arg Pro Pro Gly Ser Gln
          50           55           60
Asp Phe Ser Phe Ser Cys Leu Cys Pro Ala Thr Cys Ser Leu Pro Leu
65           70           75           80
Phe Arg Cys Gln Arg Gly Asp Phe Arg Ala Val Cys Phe Asn Pro Gly
          85           90           95
Arg Ser Asp Thr Leu Val Ser Phe Phe Gln Glu Thr Ile Ala Phe Thr
          100          105          110
Asp Val Leu Val Val
          115

```

<210> 5127  
 <211> 400  
 <212> DNA  
 <213> Homo sapiens

<400> 5127

```

ggtagcgcgc caatgcctct cgggaggccc tgcggaccgg ctctgggggtg cgttttcccg
60
agttcgtcca gtacctgctg gacgtgcacc ggcccgtggg gatggacatt cactggggacc
120
atgtcagccg gctctgcagc ccttgctca tgcactacga tttcgtaggc aagttcgaga
180
gcatggagga cgatgccaac ttcttctga gcctcatccg cgcgccgcgg aacctgacct
240
tcccccggtt caaggaccgg cactcgcagg aggcgcggac cacagcgagg atcgcccacc
300
agtacttcgc ccaactctcg gccctgcaaa ggcagcgcac ctacgacttc tactacatgg
360
attacctgat gttcaactat tccaagccct ttgcagatct
400

```

<210> 5128  
 <211> 55  
 <212> PRT  
 <213> Homo sapiens

<400> 5128

```

Gly Thr Ala Pro Met Pro Leu Gly Arg Pro Cys Gly Pro Ala Leu Gly
 1           5           10           15
Cys Val Phe Pro Ser Ser Ser Ser Thr Cys Trp Thr Cys Thr Gly Pro
          20           25           30
Trp Gly Trp Thr Phe Thr Gly Thr Met Ser Ala Gly Ser Ala Ala Pro

```

35 40 45  
Ala Ser Ser Thr Thr Ile Ser  
50 55

<210> 5129  
<211> 745  
<212> DNA  
<213> Homo sapiens

<400> 5129  
accggtgaac aggatccccc aggaaatggg gaggaagcct agagagaagg gccagatcgt  
60  
aggccaagac ccccgctgt gtctctgttc actggcagcg gagcgaggag agaggtgtgg  
120  
gctgacctga aaccagcacc tcctgtgtcc ccagctgagc cctgcacggg attggccaaa  
180  
tgtgtgtctc tgcggccgcc ctgtgtcccc cccctgggt ggagctgggg tctgggacag  
240  
tgaagatggc tcccacagct gaggggcact gggtgccaag agcctgccag accctggggc  
300  
accagaaac atgtcttgat agtgcagctg tgagcactgg cctgcgtccc ctccaccag  
360  
ccgacctatg aggtcaggg tgcttggggg cccatcaagg acatagtcct agctgccgac  
420  
tcattccaggc agcctgcaca acccctggct cccctccacc ggccacctgc cccctgcac  
480  
aggcaggatc cggcctcgcc caccacagc cctgcacctc cgggcccacg gcagcaagat  
540  
tcctatcttg gggatgcttt cctccctttg ccgagagacc cccccccc acaccttgcc  
600  
tctcttcaag gagccgaaaa tgcagctgcc gactgatttg ctgtggagct aaaaataact  
660  
gccgggctcc agccagggcc caggaaaata tccattgct aggagacaac cgttgccggg  
720  
agaccgccat tgctaggcga cgcgt  
745

<210> 5130  
<211> 111  
<212> PRT  
<213> Homo sapiens

<400> 5130  
Met Ala Val Ser Arg Gln Arg Leu Ser Pro Ser Asn Gly Ile Phe Ser  
1 5 10 15  
Trp Ala Leu Ala Gly Ala Arg Gln Leu Phe Leu Ala Pro Gln Gln Ile  
20 25 30  
Ser Arg Gln Leu His Phe Arg Leu Leu Glu Glu Arg Gln Gly Val Gly  
35 40 45  
Gly Val Gly Leu Ser Ala Lys Gly Gly Lys His Pro Gln Asp Arg Asn  
50 55 60  
Leu Ala Ala Val Gly Pro Glu Val Gln Ala Cys Gly Trp Ala Arg Pro  
65 70 75 80  
Asp Pro Ala Cys Ala Gly Gly Gln Val Ala Gly Gly Gly Glu Pro Gly

```
<210> 5131
<211> 789
<212> DNA
<213> Homo sapiens
```

```
<210> 5132
<211> 263
<212> PRT
<213> Homo sapiens
```

**4313.**

65					70					75					80
Ala	Gly	Lys	Thr	Glu	Ala	Ser	Lys	His	Ile	Met	Gln	Tyr	Ile	Ala	Ala
				85					90					95	
Val	Thr	Asn	Pro	Ser	Gln	Arg	Ala	Glu	Val	Glu	Arg	Val	Lys	Asp	Val
			100					105					110		
Leu	Leu	Lys	Ser	Thr	Cys	Val	Leu	Glu	Ala	Phe	Gly	Asn	Ala	Arg	Thr
		115					120					125			
Asn	Arg	Asn	His	Asn	Ser	Ser	Arg	Phe	Gly	Lys	Tyr	Met	Asp	Ile	Asn
	130					135					140				
Phe	Asp	Phe	Lys	Gly	Asp	Pro	Ile	Gly	Gly	His	Ile	His	Ser	Tyr	Leu
145				150				155							160
Leu	Glu	Lys	Ser	Arg	Val	Leu	Lys	Gln	His	Val	Gly	Glu	Arg	Asn	Phe
			165					170						175	
His	Ala	Phe	Tyr	Gln	Leu	Leu	Arg	Gly	Ser	Glu	Asp	Lys	Gln	Leu	His
		180					185					190			
Glu	Leu	His	Leu	Glu	Arg	Asn	Pro	Ala	Val	Tyr	Asn	Phe	Thr	His	Gln
	195					200					205				
Gly	Ala	Gly	Leu	Asn	Met	Thr	Val	His	Ser	Ala	Leu	Asp	Ser	Asp	Glu
	210					215					220				
Gln	Ser	His	Gln	Ala	Val	Thr	Glu	Ala	Met	Arg	Val	Ile	Gly	Phe	Ser
225				230					235						240
Pro	Glu	Glu	Val	Glu	Ser	Val	His	Arg	Ile	Leu	Ala	Ala	Ile	Leu	His
			245					250						255	
Leu	Gly	Asn	Ile	Glu	Phe	Val									
			260												

<210> 5133  
 <211> 581  
 <212> DNA  
 <213> Homo sapiens

<400> 5133  
 actatgtctg agtaggcagc cggtaacaca atgtctccct tgtgcaaagt aactctctta  
 60  
 gtgagtgtc agatatgtga ggaaaaagta tttggtggag tgtgacaata tgaaccgctt  
 120  
 tgaccgacca gacagaaatg ttcggcagcc tcaggaaggt ttttggaata ggcaccccca  
 180  
 gaggtggagt ggacaggagc attaccacct cagccaccct gaccactatc atcaccatgg  
 240  
 aaaaagtgtc ttgagcagag gctctcccta tagagaatct cctttgggtc attttgaaag  
 300  
 ctatggaggg atgccctttt tccaggctca gaagatgttt gttgatgtac cagaaaatac  
 360  
 agtgatactg gatgagatga cccttcggca catggttcag gattgcactg ctgtaaaaac  
 420  
 tcagttactc aaactgaaac gtctcctgca tcagcatgat ggaagtgggt cattgcatga  
 480  
 tattcaactg tcattgccat ccagtcacga accagaagat ggtgataaag tatataagaa  
 540  
 tgaagattta ttaaatgaaa taaaacaact taaagacgaa a  
 581

<210> 5134

<211> 157  
 <212> PRT  
 <213> Homo sapiens

<400> 5134

```

Met Asn Arg Phe Asp Arg Pro Asp Arg Asn Val Arg Gln Pro Gln Glu
 1           5           10           15
Gly Phe Trp Lys Arg Pro Pro Gln Arg Trp Ser Gly Gln Glu His Tyr
 20           25           30
His Leu Ser His Pro Asp His Tyr His His His Gly Lys Ser Asp Leu
 35           40           45
Ser Arg Gly Ser Pro Tyr Arg Glu Ser Pro Leu Gly His Phe Glu Ser
 50           55           60
Tyr Gly Gly Met Pro Phe Phe Gln Ala Gln Lys Met Phe Val Asp Val
 65           70           75           80
Pro Glu Asn Thr Val Ile Leu Asp Glu Met Thr Leu Arg His Met Val
 85           90           95
Gln Asp Cys Thr Ala Val Lys Thr Gln Leu Leu Lys Leu Lys Arg Leu
 100          105          110
Leu His Gln His Asp Gly Ser Gly Ser Leu His Asp Ile Gln Leu Ser
 115          120          125
Leu Pro Ser Ser Pro Glu Pro Glu Asp Gly Asp Lys Val Tyr Lys Asn
 130          135          140
Glu Asp Leu Leu Asn Glu Ile Lys Gln Leu Lys Asp Glu
 145          150          155

```

<210> 5135  
 <211> 1696  
 <212> DNA  
 <213> Homo sapiens

<400> 5135

```

nnctgcgagc gcctgccccca tgcgcccgcg cctctccgca cgatgttccc ctgcgaggag
 60
aaagcggcgc agctgccttg ggaggacggc aggtccgggt tgctctccgg cggcctccct
 120
cggaagtgtt ccgtcttcca cctgttcgtg gcctgcctct cgctgggctt cttctcccta
 180
ctctggctgc agctcagctg ctctggggac gtggcccggg cagtcagggg acaagggcag
 240
gagacctcgg gccctccccg cgctgcccc ccagagccgc cccctgagca ctgggaagaa
 300
gacgcatact ggggccccca ccgcctggca gtgctggtgc cttccgcga acgcttcgag
 360
gagctcctgg tcttcgtgcc ccacatgcgc cgcttctga gcaggaagaa gatccggcac
 420
cacatctacg tgctcaacca ggtggaccac ttcaggttca accgggcagc gctcatcaac
 480
gtgggcttcc tggagagcag caacagcacg gactacattg ccatgcacga cgttgacctg
 540
ctccctctca acgaggagct ggactatggc tttcctgagg ctgggcccct ccacgtggcc
 600
tccccggagc tccacctct ctaccactac aagacctatg tcggcggcac cctgctgctc
 660

```

tccaagcagc actaccggct gtgcaatggg atgtccaacc gcttctgggg ctggggccgc  
 720  
 gaggacgacg agttctaccg gcgcattaag ggagctgggc tccagctttt ccgcccctcg  
 780  
 ggaatcacia ctgggtacaa gacatttcgc cacctgcacg acccagcctg gcggaagagg  
 840  
 gaccagaagc gcatcgcagc tcaaaaacag gagcagttca aggtggacag ggagggaggc  
 900  
 ctgaacactg tgaagtacca tgtggcttcc cgcactgccc tgtctgtggg cggggccccc  
 960  
 tgcactgtcc tcaacatcat gttggactgt gacaagaccg ccacaccctg gtgcacattc  
 1020  
 agctgagctg gatggacagt gaggaagcct gtacctacag gccatattgc tcaggctcag  
 1080  
 gacaaggcct caggctcgtg gcccagctct gacaggatgt ggagtggcca ggaccaagac  
 1140  
 agcaagctac gcaattgcag ccaccgggcc gccaaaggcag gcttgggctg ggccaggaca  
 1200  
 cgtgggggtg ctgggacgct gcttgccatg cacagtgate agagagaggc tggggtgtgt  
 1260  
 cctgtccggg accccccctg ccttctctgt caccctactc tgacctcctt cacgtgcccc  
 1320  
 ggctgtggg tagtgggggag ggctgaacag gacaacctct catcaccccc acttttgttc  
 1380  
 cttcctgctg ggctgcctcg tgcagagaca cagtgtaggg gccatgcagc tggcgtaggt  
 1440  
 ggcagttggg cctggtgagg gttaggactt cagaaaccag agcacaagcc ccacagaggg  
 1500  
 ggaacagcca gcaccgctct agctggttgt tgccatgccg gaatgtgggc ctagtgttgc  
 1560  
 cagatcttct gatttttcga aagaaactag aatgctggat tcttaagtga tatcttctga  
 1620  
 ttttttaaat gatagcacct aaatgaaact ttcaaaaagt atggcaggcc agacaaaaaa  
 1680  
 aaaaaaaaaa aaaaaa  
 1696

&lt;210&gt; 5136

&lt;211&gt; 341

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5136

Xaa	Cys	Glu	Arg	Leu	Pro	His	Ala	Pro	Pro	Pro	Leu	Arg	Thr	Met	Phe
1				5				10						15	
Pro	Ser	Arg	Arg	Lys	Ala	Ala	Gln	Leu	Pro	Trp	Glu	Asp	Gly	Arg	Ser
				20				25					30		
Gly	Leu	Leu	Ser	Gly	Gly	Leu	Pro	Arg	Lys	Cys	Ser	Val	Phe	His	Leu
				35			40					45			
Phe	Val	Ala	Cys	Leu	Ser	Leu	Gly	Phe	Phe	Ser	Leu	Leu	Trp	Leu	Gln
				50			55				60				
Leu	Ser	Cys	Ser	Gly	Asp	Val	Ala	Arg	Ala	Val	Arg	Gly	Gln	Gly	Gln
65					70					75				80	
Glu	Thr	Ser	Gly	Pro	Pro	Arg	Ala	Cys	Pro	Pro	Glu	Pro	Pro	Pro	Glu



```
<210> 5137
<211> 3090
<212> DNA
<213> Homo sapiens
```

```
<400> 5137
nngcggcgca atccggagag gacgccagga cgacgcccga gttccctttc aggctagaac
60
tcttcctttt tctagcttgg ggtagaaggc ggcgggangc cccggaaccc ccgccctcgg
120
ggtgcgaggc ggcanagggc cgtcccctac atttgcatag cccctggggac gtggcgctgc
180
acccaagcct cttctcagtt ggagggaact ccaagtccca cagtgccacg ggggtggggtg
240
cgtcactttc gctgcgttgg aggctgagga gaattgagcc tgggaggcgg gtccggagag
300
ggctatggaa agccgccggc ggggaatccc ggccgtagag ggacagtgga taggtgcccg
360
aggcctacag ctggcctggg gctcgtgtct gggcttcgga cgttggggcc cggtggccca
420
```

ccctttccgt agttgtccca aatggagctg gaattggatg ctggtgacca agacctgctg  
480  
gccttccctgc tagaggaaag tggagatttg gggacggcac ccgatgagggc cgtgagggcc  
540  
ccactggact gggcgctgcc gctttctgag gtaccgagcg actgggaagt agatgatttg  
600  
ctgtgctccc tgctgagtc cccagcgctg ttgaacattc tcagctcctc caacccctgc  
660  
cttgtccacc atgaccacac ctactccctc ccacgggaaa ctgtctctat ggatctagag  
720  
agtgaagct gtagaaaaga ggggacccag atgactccac agcatatgga ggagctggca  
780  
gagcaggaga ttgctaggct agtactgaca gatgaggaga agagtctatt ggagaaggag  
840  
gggcttattc tgcctgagac acttccctc actaagacag aggaacaaat tctgaaacgt  
900  
gtgcggagga agattcgaaa taaaagatct gctcaagaga gccgcaggaa aaagaagggt  
960  
tatgttgggg gtttagagag cagggtcttg aaatacacag cccagaatat ggagcttcag  
1020  
aacaagtac agcttctgga ggaacagaat ttgtcccttc tagatcaact gaggaaactc  
1080  
caggccatgg tgattgagat atcaaacaaa accagcagca gcagcacctg catcttggtc  
1140  
ctactagtct ccttctgcct cctccttgta cctgctatgt actcctctga cacaaggggg  
1200  
agcctgccag ctgagcatgg agtggtgtcc cgccagcttc gtgccctccc cagtgaggac  
1260  
ccttaccagc tggagctgcc tgccctgcag tcagaagtgc cgaaagacag cacacaccag  
1320  
tggttgagcg gctcagactg tgtactccag gccctggca acacttctg cctgctgcat  
1380  
tacatgcctc aggtccccag tgcagagcct cccctggagt ggccattccc tgacctctc  
1440  
tcagagcctc tctgccgagg tccatcctc cccctgcagg caaatctcac aaggaagggg  
1500  
ggatggcttc ctactggtag cccctctgtc attttgcagg acagatactc aggctagata  
1560  
tgaggatatg tggggggtct cagcaggagc ctggggggct ccccatctgt gtccaaataa  
1620  
aaagcgggtg gcaagggctg gccgcagctc ctgtgccctg tcaggacgac tgaggggtca  
1680  
aacacaccac acttaatggc tttctgggtc ttttatttgt acccatgtgt ctgtcacacc  
1740  
atgaatgtac ctggggaaat caactgacct cctgaacat ttcacgcagt cagggaacag  
1800  
gtgaggaaag aaataaataa gtgattctaa tgctgcctag gtcacctca accccattt  
1860  
actggcacia ttgggtggag agaaggggag gggatatgatt gtctgatgg ctgaggggtg  
1920  
caggaggttc agagggggaag gaggaaggc caggctggag gctgggctgt tagcacttcc  
1980  
ctcccacagt tcagaaggct cactctgggc tcagggttgc catggcttcc tttgggtcaa  
2040

acataggccc tgccttagt cctgtgccct gtttgacttt tggccaggag gcctttttgt  
 2100  
 gctgctgctg ttgcagggct agctgcatgg cccatatgct cagtggccgc atgtaggcca  
 2160  
 gtgagcggaa cactcgtctgc tggcagtatg cctctggggg ctggaaggcc agaccaggc  
 2220  
 gctccacac ggtacggtag cagccttcag ctgtctggaa gccctccaa gtcaggccct  
 2280  
 cttggatcat ggtagctgcc agcccgtaga ccacaccac ccagacttca tcagactgca  
 2340  
 cactggattt atcagggaca ccatgggggt gcatcccatt cacagcccc atggcccctc  
 2400  
 ctgcaaaggc ctggacgttc agctcaaaga tagtttgag agcacggacc acatgttggg  
 2460  
 taggaaacac ctcatgtct ccttctccta ggccacaggc cttcaggaac cactgtccag  
 2520  
 cacactggtc agacataaca ctacgagact gaggccgaga gctgctgtca tagttgtaat  
 2580  
 agcggccatt ccacagcagt ctctcatagg cttcttgagg ccggctgagg atagaagaaa  
 2640  
 acttatcctg gatgtcctgt gcccacaca gaggagccat ctggaccatc acagccacag  
 2700  
 ctgccagcca cagccctcca cagtaagcac tggggcctgt ggtcacccat ccatcatagg  
 2760  
 tctggtctgc atagcctcca ttttcaatga gtccatcatg gtccttgtca aacttcattt  
 2820  
 cagattccat cacagcctgc agcacaaact tcaggttcag gtccttccaa tcagcagtat  
 2880  
 catggattaa atatgcattg acgcggagcc atggttcatc atctgtggga gaggagggga  
 2940  
 cttgggtcac ttgcattggt ggatagggtg gagggtgcaa aagttgaggg aggggaagctg  
 3000  
 accttggggg ggacttttac ctgggttccc aatatcatgg gggatgacgt tctcctttt  
 3060  
 cacaggtgcc atcacccac tcatcangta  
 3090

&lt;210&gt; 5138

&lt;211&gt; 371

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5138

Met	Glu	Leu	Glu	Leu	Asp	Ala	Gly	Asp	Gln	Asp	Leu	Leu	Ala	Phe	Leu
1				5				10					15		
Leu	Glu	Glu	Ser	Gly	Asp	Leu	Gly	Thr	Ala	Pro	Asp	Glu	Ala	Val	Arg
			20				25					30			
Ala	Pro	Leu	Asp	Trp	Ala	Leu	Pro	Leu	Ser	Glu	Val	Pro	Ser	Asp	Trp
		35				40				45					
Glu	Val	Asp	Asp	Leu	Leu	Cys	Ser	Leu	Leu	Ser	Pro	Pro	Ala	Ser	Leu
	50				55				60						
Asn	Ile	Leu	Ser	Ser	Ser	Asn	Pro	Cys	Leu	Val	His	His	Asp	His	Thr
65				70				75					80		
Tyr	Ser	Leu	Pro	Arg	Glu	Thr	Val	Ser	Met	Asp	Leu	Glu	Ser	Glu	Ser

				85						90					95				
Cys	Arg	Lys	Glu	Gly	Thr	Gln	Met	Thr	Pro	Gln	His	Met	Glu	Glu	Leu				
			100						105					110					
Ala	Glu	Gln	Glu	Ile	Ala	Arg	Leu	Val	Leu	Thr	Asp	Glu	Glu	Lys	Ser				
		115					120						125						
Leu	Leu	Glu	Lys	Glu	Gly	Leu	Ile	Leu	Pro	Glu	Thr	Leu	Pro	Leu	Thr				
	130					135					140								
Lys	Thr	Glu	Glu	Gln	Ile	Leu	Lys	Arg	Val	Arg	Arg	Lys	Ile	Arg	Asn				
145					150					155					160				
Lys	Arg	Ser	Ala	Gln	Ser	Arg	Arg	Lys	Lys	Lys	Val	Tyr	Val	Gly					
			165					170						175					
Gly	Leu	Glu	Ser	Arg	Val	Leu	Lys	Tyr	Thr	Ala	Gln	Asn	Met	Glu	Leu				
		180						185					190						
Gln	Asn	Lys	Val	Gln	Leu	Leu	Glu	Glu	Gln	Asn	Leu	Ser	Leu	Leu	Asp				
	195					200				205									
Gln	Leu	Arg	Lys	Leu	Gln	Ala	Met	Val	Ile	Glu	Ile	Ser	Asn	Lys	Thr				
	210				215					220									
Ser	Ser	Ser	Ser	Thr	Cys	Ile	Leu	Val	Leu	Leu	Val	Ser	Phe	Cys	Leu				
225				230					235					240					
Leu	Leu	Val	Pro	Ala	Met	Tyr	Ser	Ser	Asp	Thr	Arg	Gly	Ser	Leu	Pro				
			245					250						255					
Ala	Glu	His	Gly	Val	Leu	Ser	Arg	Gln	Leu	Arg	Ala	Leu	Pro	Ser	Glu				
		260						265					270						
Asp	Pro	Tyr	Gln	Leu	Glu	Leu	Pro	Ala	Leu	Gln	Ser	Glu	Val	Pro	Lys				
	275					280						285							
Asp	Ser	Thr	His	Gln	Trp	Leu	Asp	Gly	Ser	Asp	Cys	Val	Leu	Gln	Ala				
	290				295			300											
Pro	Gly	Asn	Thr	Ser	Cys	Leu	Leu	His	Tyr	Met	Pro	Gln	Ala	Pro	Ser				
305				310				315						320					
Ala	Glu	Pro	Pro	Leu	Glu	Trp	Pro	Phe	Pro	Asp	Leu	Phe	Ser	Glu	Pro				
		325						330					335						
Leu	Cys	Arg	Gly	Pro	Ile	Leu	Pro	Leu	Gln	Ala	Asn	Leu	Thr	Arg	Lys				
		340						345					350						
Gly	Gly	Trp	Leu	Pro	Thr	Gly	Ser	Pro	Ser	Val	Ile	Leu	Gln	Asp	Arg				
		355					360						365						
Tyr	Ser	Gly																	
	370																		

<210> 5139  
 <211> 1968  
 <212> DNA  
 <213> Homo sapiens

<400> 5139  
 gtctgccggc ttctggttcc caccgaagta agcctgctgt caatggagga ggacattgat  
 60  
 acccgcaaaa tcaacaacag tttcctgcgc gaccacagct atgcgaccga agctgacatt  
 120  
 atctctacgg tagaattcaa ccacacggga gaattactag cgacagggga caaggggggt  
 180  
 cgggttgtaa tatttcaacg agagcaggag agtaaaaatc aggttcacg taggggtgaa  
 240  
 tacaatgttt acagcacatt ccagagccat gaacccgagt tcgattacct gaagagttta  
 300

gaaatagaag aaaaaatcaa taaaataaga tggctccccc agcagaatgc agcttacttt  
360  
cttctgtcta ctaatgataa aactgtgaag ctgtggaaag tcagcgagcg tgataagagg  
420  
ccagaaggct acaatctgaa agatgaggag ggccggctcc gggatcctgc caccatcaca  
480  
accctgcggg tgcctgtcct gagacccatg gacctgatgg tggaggccac cccacgaaga  
540  
gtatttgcca acgcacacac atatcacatc aactccatat ctgtcaacag cgactatgaa  
600  
acctacatgt ccgctgatga cctgaggatt aacctatgga actttgaaat aaccaatcaa  
660  
agttttaata ttgtggacat taagccagcc aacatggagg agctcacgga ggtgatcaca  
720  
gcagccgagt tccaccccca tcattgcaac accttcgtgt acagcagcag caaagggaca  
780  
atccggctgt gtgacatgcg ggcatctgcc ctgtgtgaca ggcacaccaa gttttttgaa  
840  
gagccggaag atccaagcaa cagatcattt ttctctgaaa ttatctcttc gatttcggat  
900  
gtgaagtcca gccacagtgg gaggtatatc atgaccagag actacttgac cgtcaaagtc  
960  
tgggatctca acatggagag caggccggtg gagaccacc aggttcatga ctacctgcgc  
1020  
agcaagctct gctctctcta tgagaacgac tgcattcttg acaagtttga gtgtgtgtgg  
1080  
aatgggtcag acagtgtcat catgacaggc tcctataaca acttcttcag gatgtttgat  
1140  
agagacacca agcgtgatgt gacccttgag gcttcgaggg aaaacagcaa gccccgggct  
1200  
atcctcaaac cccgaaaagt gtgtgtgggg ggcaagcgga gaaaagacga gatcagtgtc  
1260  
gacagtctgg acttttagcaa aaagatcctg cacacagcct ggcaccccggt ggacaatgtc  
1320  
attgccgtgg ctgccaccaa taacttgtac atattccagg acaaaatcaa ctagagacgc  
1380  
gaacgtgagg accaagtctt gtcttgcata gttaagccgg acatttttct gtcagagaaa  
1440  
aggcatcatt gtccgctcca ttaagaacag tgacgcacct gctacttccc ttcacagaca  
1500  
caggagaaag ccgcctccgc tggaggcccg gtgtgggtcc gcctcggcga ggcgcgagac  
1560  
aggcgctgct gctcacgtgg agacgctctc gaagcagagt tgacggacac tgctcccaaa  
1620  
aggtcattac tcagaataaa tgtatttatt tcagtccgag ccttcctttc caatttatag  
1680  
acaaaaaat taacatccaa gagaaaagtt attgtcagat accgctcttt ctccaacttt  
1740  
ccctctttct ctgccatcac acttgggcct tcaactgcagc gtggtgtggc caccgtccgt  
1800  
gtcctctcgg ccttcctccg agtccaggtg gactctgtgg atgtgtggat gtggcccgag  
1860  
caggctcagg cggccccact caccacagc atccgcccgc accccttcgg gtgtgagcgc  
1920

tcaataaaaa caacacacta taaagtgttt ttaaattccaa aaaaaaaa  
1968

<210> 5140

<211> 443

<212> PRT

<213> Homo sapiens

<400> 5140

```

Met Glu Glu Asp Ile Asp Thr Arg Lys Ile Asn Asn Ser Phe Leu Arg
 1           5           10           15
Asp His Ser Tyr Ala Thr Glu Ala Asp Ile Ile Ser Thr Val Glu Phe
          20           25           30
Asn His Thr Gly Glu Leu Leu Ala Thr Gly Asp Lys Gly Gly Arg Val
          35           40           45
Val Ile Phe Gln Arg Glu Gln Glu Ser Lys Asn Gln Val His Arg Arg
          50           55           60
Gly Glu Tyr Asn Val Tyr Ser Thr Phe Gln Ser His Glu Pro Glu Phe
65           70           75           80
Asp Tyr Leu Lys Ser Leu Glu Ile Glu Glu Lys Ile Asn Lys Ile Arg
          85           90           95
Trp Leu Pro Gln Gln Asn Ala Ala Tyr Phe Leu Leu Ser Thr Asn Asp
          100          105          110
Lys Thr Val Lys Leu Trp Lys Val Ser Glu Arg Asp Lys Arg Pro Glu
          115          120          125
Gly Tyr Asn Leu Lys Asp Glu Glu Gly Arg Leu Arg Asp Pro Ala Thr
          130          135          140
Ile Thr Thr Leu Arg Val Pro Val Leu Arg Pro Met Asp Leu Met Val
145          150          155          160
Glu Ala Thr Pro Arg Arg Val Phe Ala Asn Ala His Thr Tyr His Ile
          165          170          175
Asn Ser Ile Ser Val Asn Ser Asp Tyr Glu Thr Tyr Met Ser Ala Asp
          180          185          190
Asp Leu Arg Ile Asn Leu Trp Asn Phe Glu Ile Thr Asn Gln Ser Phe
          195          200          205
Asn Ile Val Asp Ile Lys Pro Ala Asn Met Glu Glu Leu Thr Glu Val
          210          215          220
Ile Thr Ala Ala Glu Phe His Pro His His Cys Asn Thr Phe Val Tyr
225          230          235          240
Ser Ser Ser Lys Gly Thr Ile Arg Leu Cys Asp Met Arg Ala Ser Ala
          245          250          255
Leu Cys Asp Arg His Thr Lys Phe Phe Glu Glu Pro Glu Asp Pro Ser
          260          265          270
Asn Arg Ser Phe Phe Ser Glu Ile Ile Ser Ser Ile Ser Asp Val Lys
          275          280          285
Phe Ser His Ser Gly Arg Tyr Ile Met Thr Arg Asp Tyr Leu Thr Val
          290          295          300
Lys Val Trp Asp Leu Asn Met Glu Ser Arg Pro Val Glu Thr His Gln
305          310          315          320
Val His Asp Tyr Leu Arg Ser Lys Leu Cys Ser Leu Tyr Glu Asn Asp
          325          330          335
Cys Ile Phe Asp Lys Phe Glu Cys Val Trp Asn Gly Ser Asp Ser Val
          340          345          350
Ile Met Thr Gly Ser Tyr Asn Asn Phe Phe Arg Met Phe Asp Arg Asp

```

```
<210> 5141
<211> 928
<212> DNA
<213> Homo sapiens
```

```
<210> 5142
<211> 227
<212> PRT
```

&lt;213&gt; Homo sapiens

&lt;400&gt; 5142

```

Met Ser Glu Arg Val Ser Gly Leu Ala Gly Ser Ile Tyr Arg Glu Phe
 1           5           10           15
Glu Arg Leu Ile His Cys Tyr Asp Glu Glu Val Val Lys Glu Leu Met
          20           25           30
Pro Leu Val Val Asn Val Leu Glu Asn Leu Asp Ser Val Leu Ser Glu
          35           40           45
Asn Gln Glu His Glu Val Glu Leu Glu Leu Leu Arg Glu Asp Asn Glu
          50           55           60
Gln Leu Leu Thr Gln Tyr Glu Arg Glu Lys Ala Leu Arg Arg Gln Ala
65          70          75          80
Glu Glu Lys Phe Ile Glu Phe Glu Asp Ala Leu Glu Gln Glu Lys Lys
          85          90          95
Glu Leu Gln Ile Gln Val Glu His Tyr Glu Phe Gln Thr Arg Gln Leu
          100         105         110
Glu Leu Lys Ala Lys Asn Tyr Ala Asp Gln Ile Ser Arg Leu Glu Glu
          115         120         125
Arg Glu Ser Glu Met Lys Lys Glu Tyr Asn Ala Leu His Gln Arg His
          130         135         140
Thr Glu Met Ile Gln Thr Tyr Val Glu His Ile Glu Arg Ser Lys Met
145          150         155         160
Gln Gln Val Gly Gly Asn Ser Gln Thr Glu Ser Ser Leu Pro Gly Arg
          165         170         175
Ser Arg Lys Glu Arg Pro Thr Ser Leu Asn Val Phe Pro Leu Ala Asp
          180         185         190
Gly Thr Val Arg Ala Gln Ile Gly Gly Lys Leu Val Pro Ala Gly Asp
          195         200         205
His Trp His Leu Ser Asp Leu Gly Gln Leu Gln Ser Ser Ser Ser Tyr
          210         215         220
Gln Val Leu
225

```

&lt;210&gt; 5143

&lt;211&gt; 1666

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5143

```

nccccccac agttccgacg aaaaatggcg gggtttctctg agttgggtggt ccttgaccct
60
ccatgggaca aggagctcgc ggctggcaca gagagccagg ccttggtctc cgccactccc
120
cgagaagact ttcgggtgcg ctgcacctcg aagcgggctg tgaccgaaat gctacaactg
180
tgcgggccgct tcgtgcaaaa gctcggggac gctctgccgg aggagattcg ggagcccgtc
240
ctgcgagatg cgcagtggac ttttgaatca gctgtgcaag agaatatcag cattaatggg
300
caagcatggc aggaagcttc agataattgt tttatggatt ctgacatcaa agtacttgaa
360
gatcagtttg atgaaatcat agtagatata gccacaaaac gtaagcagta tcccagaaag
420

```



atcctggaat gtgtcatcaa aaccataaaa gcaaaacaag aaattctgaa gcagtaccac  
 480  
 cctgttgtac atccactgga cctaaaatat gaccctgac cagccctca tatggaaaat  
 540  
 ttgaaatgca gaggggaaac agtagcaaag gagatcagtg aagccatgaa gtccttgcct  
 600  
 gcattaattg aacaaggaga gggattttcc caagttctca ggatgcagcc tgttatccac  
 660  
 ctccagagga ttcaccaaga agtcttttcc agttgtcata ggaaaccaga tgctaaacct  
 720  
 gagaacttta taacacagat agaaaccaca ccaacagaga ctgcttccag gaaaacctct  
 780  
 gacatggtac tgaaaagaaa gcaaaactaaa gactgcccc agagaaaatg gtatccattg  
 840  
 cggccaaaga aaattaatct tgatacatga gctctttctg tttatttttg gagttgaaaa  
 900  
 taggcacat caacatttag attacagcct aattaatacc tagataagac ttcatttgaa  
 960  
 ataagaaata actcttttac tagtgattca tttatacaga tatagtatct ctgtgcgggg  
 1020  
 atatgatata atattgtatt tccttactgt tttatctatt gtaaataaaa agcattttta  
 1080  
 aaagtattga cacaagccc atcagtgggc attaaaaata taaaagtgc agacttttac  
 1140  
 tgtccttaag tgccatcaac tctcagctcc cttgtagctt ttgtgggatt taacaagtaa  
 1200  
 caaattctgt tgtgtttccc tgggtatacat ctttctagga aaaaaaaaaa aagagagaga  
 1260  
 gctgtataat gatttttctg ttacatgctg aaaagtaatt atcagttctg cacagcagca  
 1320  
 gatgcagggt ttttttttaa agatgtagtt tgatttatca aattaatgtg ctgatgataa  
 1380  
 tactggcttt gactttgtta ctccatgttc agctaattta ggtttgtgag attaacttta  
 1440  
 ggattttttg ttgtgtaaga caatgataac tattatttgt gcaacattac tctttgaaat  
 1500  
 aaaaattggc atgtagccaa tgtttctgc ccacactcac ttttttctat agaccattaa  
 1560  
 cataatttga cttggaacta atgggttctt ttaggggtt cttatttatt tctttacaaa  
 1620  
 tcattccagt tcaaaatata tatcagatta atacactgaa aaaaaa  
 1666

&lt;210&gt; 5144

&lt;211&gt; 218

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5144

Leu	Pro	Glu	Glu	Ile	Arg	Glu	Pro	Ala	Leu	Arg	Asp	Ala	Gln	Trp	Thr
1				5				10					15		
Phe	Glu	Ser	Ala	Val	Gln	Glu	Asn	Ile	Ser	Ile	Asn	Gly	Gln	Ala	Trp
			20				25					30			
Gln	Glu	Ala	Ser	Asp	Asn	Cys	Phe	Met	Asp	Ser	Asp	Ile	Lys	Val	Leu

```
<210> 5145
<211> 1885
<212> DNA
<213> Homo sapiens
```

```
<400> 5145
ncctaggcgt cctgacaggt ggatttcgac aaggtcattg tgccctgcc aaggcacagcg
60
tagatctgga aagagcagaa tgctttcctt ttcagatgtg gctgggtcatg gaagggggcag
120
ttgtccaagt tgggctgggt cttggtacac gtggttcggc ccagctccac gtccaagaag
180
tagttcacc cagctacgat ctgcttgcg gcgcgcacca cctgcagcgc gcggctgtgg
240
tacctgtcgt tgctggcttt gttgtactcg ccgacggcct cgcctcggta tcgcagcggg
300
tcctctctat ctagctccag cctctcgct gcgccccact ccccgcgctc cgcgtcctag
360
ccgaccatgg ccgggccccct gcgcgccccg ctgctcctgc tggccatcct ggccgtggcc
420
ctggccgtga gccccgcggc cggctccagt cccggcaagc cgcgcgcct ggtgggaggc
480
cccatggacg ccagcgtgga ggaggagggt gtgcggcgtg cactggactt tgccgtcggc
540
gagtacaaca aagccggcaa cgacatgtac cacagccgcg cgctgcaggt ggtgcgcgcc
600
cgcaagcagg tgacaatgtg ggcagctcat gaagatcgta gctgggggtga actacttctt
660
ggacgtggag ctggggccgaa ccacgtgtac caagaccag cccaacttgg acaactgcc
720
```

cttccatgac cagccacatc tgaaaaggaa agcattctgc tctttccaga tctacgctgt  
 780  
 gccttgaggcag ggcacaatga ccttgctgaa atccacctgt caggacgcct aggggtctgt  
 840  
 accgggctgg cctgtgccta tcacctctta tgcacacctc ccacccctg tattcccacc  
 900  
 cctggactgg tggccctgc cttggggaag gtctcccat gtgcctgcac caggagacag  
 960  
 acagagaagg cagcaggcgg cctttgttgc tcagcaagg gctctgcct cctccttcc  
 1020  
 ttcttgcttc tcatagcccc ggtgtgcggt gcatacacc ccacctctg caataaaata  
 1080  
 gtagcatcgg caaaaaaacc tggcatccgg acaggcatcc aaggccttaa aggagaccag  
 1140  
 ggggaacctg ggccctctgg aaaccccgcc aaggtgggct acccagggcc cagcggcccc  
 1200  
 ctcgagccc gtggcatccc gggaattaaa ggcaccaagg gcagcccagg aaacatcaag  
 1260  
 gaccagccga ggccagcctt ctccgccatt cggcggaacc cccaatggg gggcaacgtg  
 1320  
 gtcattcttc acacgggtcat caccaaccag gaagaaccgt accagaacca ctccggccga  
 1380  
 ttctgttgc ctgtaccggt ctactactac ttcaccttcc aggtgctgtc ccagtgggaa  
 1440  
 atctgcctgt ccatcgtctc ctctcaagg ggccagggtc gacgctcctt gggcttctgt  
 1500  
 gacaccacca acaagggggt cttccagggt gtgtcagggg gcatgggtgt tcagctgcag  
 1560  
 cagggtgacc aggtctgggt tgaaaaagac ccaaaaaagg gtcacattta ccagggtctt  
 1620  
 gaggccgaca gcgtcttcag cggcttctc atcttcccat ctgcctgagc cagggaagga  
 1680  
 cccctcccc caccacctc tctggcttcc atgtccgcc tgtaaaatgg gggcgctatt  
 1740  
 gcttcagctg ctgaagggag ggggctgggt ctgagagccc caggactggc tgccccgtga  
 1800  
 cacatgctct aagaagctcg tttcttagac ctcttcttgg aataaacatc tgtgtctgtg  
 1860  
 tctgctgaaa aaaaaaaaaa aaaaa  
 1885

&lt;210&gt; 5146

&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5146

Pro	Ala	Thr	Ser	Glu	Lys	Glu	Ser	Ile	Leu	Leu	Phe	Pro	Asp	Leu	Arg
1				5					10					15	
Cys	Ala	Leu	Ala	Gly	His	Asn	Asp	Leu	Val	Glu	Ile	His	Leu	Ser	Gly
			20					25					30		
Arg	Leu	Gly	Val	Cys	Thr	Gly	Leu	Ala	Cys	Ala	Tyr	His	Leu	Leu	Cys
	35						40					45			
Thr	Pro	Pro	Thr	Pro	Cys	Ile	Pro	Thr	Pro	Gly	Leu	Val	Ala	Pro	Ala

50 55 60  
 Leu Gly Lys Val Ser Pro Cys Ala Cys Thr Arg Arg Gln Thr Glu Lys  
 65 70 75 80  
 Ala Ala Gly Gly Leu Cys Cys Ser Ala Arg Gly Ser Ala Leu Pro Pro  
 85 90 95  
 Ser Phe Leu Leu Leu Ile Ala Pro Val Cys Gly Ala Tyr Thr Pro Thr  
 100 105 110  
 Ser Cys Asn Lys Ile Val Ala Ser Ala Lys Lys Pro Gly Ile Arg Thr  
 115 120 125  
 Gly Ile Gln Gly Leu Lys Gly Asp Gln Gly Glu Pro Gly Pro Ser Gly  
 130 135 140  
 Asn Pro Gly Lys Val Gly Tyr Pro Gly Pro Ser Gly Pro Leu Gly Ala  
 145 150 155 160  
 Arg Gly Ile Pro Gly Ile Lys Gly Thr Lys Gly Ser Pro Gly Asn Ile  
 165 170 175  
 Lys Asp Gln Pro Arg Pro Ala Phe Ser Ala Ile Arg Arg Asn Pro Pro  
 180 185 190  
 Met Gly Gly Asn Val Val Ile Phe Asp Thr Val Ile Thr Asn Gln Glu  
 195 200 205  
 Glu Pro Tyr Gln Asn His Ser Gly Arg Phe Val Cys Thr Val Pro Gly  
 210 215 220  
 Tyr Tyr Tyr Phe Thr Phe Gln Val Leu Ser Gln Trp Glu Ile Cys Leu  
 225 230 235 240  
 Ser Ile Val Ser Ser Ser Arg Gly Gln Val Arg Arg Ser Leu Gly Phe  
 245 250 255  
 Cys Asp Thr Thr Asn Lys Gly Leu Phe Gln Val Val Ser Gly Gly Met  
 260 265 270  
 Val Leu Gln Leu Gln Gln Gly Asp Gln Val Trp Val Glu Lys Asp Pro  
 275 280 285  
 Lys Lys Gly His Ile Tyr Gln Gly Ser Glu Ala Asp Ser Val Phe Ser  
 290 295 300  
 Gly Phe Leu Ile Phe Pro Ser Ala  
 305 310

&lt;210&gt; 5147

&lt;211&gt; 2943

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5147

nacgcgtcgc tgaaggagcg ctctgccttc ctcttcaact cggagctgct gagcgatgtg  
 60  
 cgcttcgtac tgggcaaggg tcgcggcgcc gccgcgctg ggggcccgcga gcgcatcccc  
 120  
 gccaccgct tcgtgctggc ggccggcagc gccgtctttg acgccatgtt caacggcggc  
 180  
 atggccacca cgtcggccga gatcgagctg ccggacgtgg agcccgagc cttcctggcg  
 240  
 ctgctgagat ttctatatc agatgaagtt caaattggtc cagaaacagt tatgaccact  
 300  
 ctttatactg ccaagaaata cgcagtccca gccttggag cacactgtgt agaatttctc  
 360  
 accaaacatc ttagggcaga taatgccttt atgttactta ctcaggctcg attatttgat  
 420

gaacctcagc ttgctagtct ttgtctagat acaatagaca aaagcacaat ggatgcaata  
480  
agtgcagaag gggtttactga tattgatata gatacactct gtgcagtttt agagagagac  
540  
acactcagta ttcgagaaaag tcgacttttt ggagctgttg tacgctgggc agaagcagaa  
600  
tgtcagagac aacaattacc tgtgactttt gggaataaac aaaaagttct aggaaaagca  
660  
ctttccttaa tccggttccc actgatgaca attgaggaat ttgcagcagg tcctgctcaa  
720  
tctggaattt tgtcagatcg tgaagtggta aacctctttc ttcattttac tgtcaaccct  
780  
aaaccccgag ttgaatacat tgaccgacca agatgctgtc tcaggggaaa ggaatgctgc  
840  
atcaatagat tccagcaagt agaaagccgc tgggggttaca gtgggacgag tgatcgaatc  
900  
agattcacag ttaatagaag gatctctata gttggatttg gcttgatgg atctattcat  
960  
ggccctacag attatcaagt gaatatacag atcattgaat atgagaaaaa gcaaaccctg  
1020  
ggacagaatg ataccggctt tagttgtgat gggacagcta acacattcag ggtcatgttc  
1080  
aaggaaccca tagagatcct gcccaatgtg tgctacacag catgtgcaac actcaaagg  
1140  
ccagattccc actatggcac aaaaggattg aagaaagtag tgcagagac acctgctgca  
1200  
agcaagactg tttttttctt ttttagttcc cctggcaata ataatggcac ttcaatagaa  
1260  
gatggacaaa ttccagaaat catattttat acataattta gcattataat acatcttggc  
1320  
taaataatac catacaatct agtgtcaaaa acataaatgg ccacaaaaaa gtagtttgag  
1380  
tgttatgaat atttaaaatt gtaagataag aaacagtttc ttagagcaga tagaaaaatg  
1440  
cttatttaaa tctttgcatg atttaaaaac agattttcca ttttcttaca actttaagag  
1500  
aaaagaactg ggtttaatgg tttaaaaaaa agcacagctt tttcaccttc atcttgtata  
1560  
atttcataga ttggctgact tagggctctt caatagtttg ggaattgaaa gattcttgtt  
1620  
atatatagct agtttgggtt tggttttgtt ttaactattt tgaagggttag gtgagatggg  
1680  
caaataggct taactatttt gaagggttga tgaaaagaga tgggtcagta ttcctacaga  
1740  
attcttatta actcaaataa ctaaaattca gaaaattaag aagctgactt tatatttggt  
1800  
ggtttgaagt atcttgttgt tagcatttgt aataatgcta aaaaaggcct aataaaatgc  
1860  
ccaagaaaat attcagtgc tttatagaga aggatatttt gtagtagtat agtaatgtgt  
1920  
tatgtagtac agttttaag ctataaatgg aattttgtgt aaattcaca aaatgtgata  
1980  
taaacaggat ctaagactgg attccctgtc actaaactgc accactatac ctgtctctct  
2040

gtgtggggga cactgctgat gattcccaag attgagatga tgacgggtgat gacgactggg  
 2100  
 tgaacagcca tcacttcaac attgtgataa tccttcacag cagaaaccga ataaaatact  
 2160  
 aacattttcta acaactgctc tgacattgta aagagatcca acagaatcac tcctgctgaa  
 2220  
 aaatacgctt tctgccacct acacatttct atttaggaag taaaatttgc ttcattggtca  
 2280  
 tgacccccatt agtcagtgtt acagctgtgt tggggatagg aagtatatct ggcagattga  
 2340  
 tatttatata cttttttata aagcagattt taaaatatag taacatccat ttttttcct  
 2400  
 tgaaagtgat tctcttataa aaaatgaaag tggagttaa ggtatatcaa atcgttgtgg  
 2460  
 aagggtgatta aaaatcaaaa ttcttttaaa tatcaactta attttttcta agtaagatac  
 2520  
 aaaaaatttt catctaaagt aatattttcac tttatatgtt aaagaaggta ggtatatagg  
 2580  
 tggctgaggt ctcttgaaat tgctaaaggg aaatttttct atggtaatgc tcttacggat  
 2640  
 ataaacctca gttaaaggga attatctatg ggatgtgtgg ttctgggtta ctaaaaatta  
 2700  
 accagtaaac actctgtagt aaccattaca gaaaatactt ctgccttaaa aaatatgata  
 2760  
 tgccagagat gagttagtgt ttcttgacgt tggagacctt ttaaatagcct catctgttgt  
 2820  
 actgaacaat tgaaactgca tgcagccata aaagggacaa gaaacagaac tgtttactaa  
 2880  
 ctttgggaca tcccctggag tttttaaaaa taaataaata tatatatata taaaaaaaaa  
 2940  
 aaa  
 2943

&lt;210&gt; 5148

&lt;211&gt; 296

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5148

Ala	Arg	Leu	Phe	Asp	Glu	Pro	Gln	Leu	Ala	Ser	Leu	Cys	Leu	Asp	Thr
1				5					10					15	
Ile	Asp	Lys	Ser	Thr	Met	Asp	Ala	Ile	Ser	Ala	Glu	Gly	Phe	Thr	Asp
			20					25					30		
Ile	Asp	Ile	Asp	Thr	Leu	Cys	Ala	Val	Leu	Glu	Arg	Asp	Thr	Leu	Ser
		35					40					45			
Ile	Arg	Glu	Ser	Arg	Leu	Phe	Gly	Ala	Val	Val	Arg	Trp	Ala	Glu	Ala
	50					55					60				
Glu	Cys	Gln	Arg	Gln	Gln	Leu	Pro	Val	Thr	Phe	Gly	Asn	Lys	Gln	Lys
65				70						75				80	
Val	Leu	Gly	Lys	Ala	Leu	Ser	Leu	Ile	Arg	Phe	Pro	Leu	Met	Thr	Ile
			85					90						95	
Glu	Glu	Phe	Ala	Ala	Gly	Pro	Ala	Gln	Ser	Gly	Ile	Leu	Ser	Asp	Arg
			100					105						110	
Glu	Val	Val	Asn	Leu	Phe	Leu	His	Phe	Thr	Val	Asn	Pro	Lys	Pro	Arg

	115		120		125										
Val	Glu	Tyr	Ile	Asp	Arg	Pro	Arg	Cys	Cys	Leu	Arg	Gly	Lys	Glu	Cys
	130					135					140				
Cys	Ile	Asn	Arg	Phe	Gln	Gln	Val	Glu	Ser	Arg	Trp	Gly	Tyr	Ser	Gly
145				150					155						160
Thr	Ser	Asp	Arg	Ile	Arg	Phe	Thr	Val	Asn	Arg	Arg	Ile	Ser	Ile	Val
			165						170					175	
Gly	Phe	Gly	Leu	Tyr	Gly	Ser	Ile	His	Gly	Pro	Thr	Asp	Tyr	Gln	Val
			180					185					190		
Asn	Ile	Gln	Ile	Ile	Glu	Tyr	Glu	Lys	Lys	Gln	Thr	Leu	Gly	Gln	Asn
	195						200					205			
Asp	Thr	Gly	Phe	Ser	Cys	Asp	Gly	Thr	Ala	Asn	Thr	Phe	Arg	Val	Met
	210					215					220				
Phe	Lys	Glu	Pro	Ile	Glu	Ile	Leu	Pro	Asn	Val	Cys	Tyr	Thr	Ala	Cys
225					230				235						240
Ala	Thr	Leu	Lys	Gly	Pro	Asp	Ser	His	Tyr	Gly	Thr	Lys	Gly	Leu	Lys
			245					250						255	
Lys	Val	Val	His	Glu	Thr	Pro	Ala	Ala	Ser	Lys	Thr	Val	Phe	Phe	Phe
		260					265					270			
Phe	Ser	Ser	Pro	Gly	Asn	Asn	Asn	Gly	Thr	Ser	Ile	Glu	Asp	Gly	Gln
	275					280						285			
Ile	Pro	Glu	Ile	Ile	Phe	Tyr	Thr								
	290					295									

&lt;210&gt; 5149

&lt;211&gt; 533

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5149

```

ntccggatgg cagttatggc tatggggatc aaagatgacc gtcttaacaa agaccgatgt
60
gtacgcctag ccctggttca tgatatggca gaatgcatcg ttggggacat agcaccagca
120
gataacatcc ccaaagaaga aaaacatagg cgagaagagg aagctatgaa gcagataacc
180
cagctcctac cagaggacct cagaaaggag ctctatgaac tttgggaaga gtacgagacc
240
caatctagtg cagaagccaa atttgtgaag cagctagacc aatgtgaaat gattcttcaa
300
gcatctgaat atgaagacct tgaacacaaa cctgggagac tgcaagactt ctatgattcc
360
acagcaggaa aattcaatca ccctgagata gtccagcttg tttctgaact tgaggcagaa
420
agaagcacta acatagctgc agctgccagt gagccacact cctgagacac tctctaaatt
480
gctgcactcc tgtaacaaac attattttcc atttcattgt attgtgtttt gca
533

```

&lt;210&gt; 5150

&lt;211&gt; 154

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

<400> 5150  
 Xaa Arg Met Ala Val Met Ala Met Gly Ile Lys Asp Asp Arg Leu Asn  
 1 5 10 15  
 Lys Asp Arg Cys Val Arg Leu Ala Leu Val His Asp Met Ala Glu Cys  
 20 25 30  
 Ile Val Gly Asp Ile Ala Pro Ala Asp Asn Ile Pro Lys Glu Glu Lys  
 35 40 45  
 His Arg Arg Glu Glu Glu Ala Met Lys Gln Ile Thr Gln Leu Leu Pro  
 50 55 60  
 Glu Asp Leu Arg Lys Glu Leu Tyr Glu Leu Trp Glu Glu Tyr Glu Thr  
 65 70 75 80  
 Gln Ser Ser Ala Glu Ala Lys Phe Val Lys Gln Leu Asp Gln Cys Glu  
 85 90 95  
 Met Ile Leu Gln Ala Ser Glu Tyr Glu Asp Leu Glu His Lys Pro Gly  
 100 105 110  
 Arg Leu Gln Asp Phe Tyr Asp Ser Thr Ala Gly Lys Phe Asn His Pro  
 115 120 125  
 Glu Ile Val Gln Leu Val Ser Glu Leu Glu Ala Glu Arg Ser Thr Asn  
 130 135 140  
 Ile Ala Ala Ala Ala Ser Glu Pro His Ser  
 145 150

<210> 5151  
 <211> 2273  
 <212> DNA  
 <213> Homo sapiens

<400> 5151  
 nggtagtggg agatgtccgg ccggtctaag cgggagtctc gcggttccac tcgcgggaag  
 60  
 cgagagtctg agtcgcgggg cagctccggt cgcgtaagc gggagcgaga tcgggagcgg  
 120  
 gaggctgagg cggcgagctc ccggggcagc cctgtgcgcg tgaagcggga gttcgagccg  
 180  
 gcgagcgcgc gcgaggcccc ggcttctgtt gtcccgtttg tgcgggtgaa gcgggagcgc  
 240  
 gaggtcgatg aggactcgga gcctgagcgg gaggtgagag caaagaatgg ccgagtggat  
 300  
 tctgaggacc ggaggagccg cactgcctg tacctggaca ccattaacag gagtgtgctg  
 360  
 gactttgact ttgagaaact gtgttctatc tccctctcac acatcaatgc ttatgcctgt  
 420  
 ctggtgtgtg gcaagtactt tcaagctttt cacccttccc tacaggccgg gggttgaagt  
 480  
 ctcacgccta cattcacagt gtccagttaa gccacatgt ttcctcaac ctccacccc  
 540  
 tcaagtttta ctgccttcca gacaactatg agatcatcga ttcctcattg gaggatatca  
 600  
 cgtatgtgtt tgaagccac tttcacaaag cagcaaattg caaacttgga caagcaagcc  
 660  
 aaattgtccc gggcatatga tggtaaccat tacctgccgg gtattgtggg actgaataac  
 720  
 ataaaggcca atgattatgc caacgctgtc cttcaggctc tatctaattg tccctctctc  
 780



cggaactact ttctggaaga agacaattat aagaacatca aacgtcctcc aggggatatc  
840  
atgttcttgt tgggccagcg ttttggagag ctgatgagaa agctctggaa ccctcgaaat  
900  
ttcaaggcac atgtgtctcc ccatgagatg cttcaggcag ttgtactttg cagtaagaag  
960  
acttttcaga tcaccaaaca aggagatggc gttgactttc tgtcttgggt tctgaatgct  
1020  
ctgcactcag ctctgggggg cacaaagaag aaaaagaaga ctattgtgac tgatgttttc  
1080  
caggggtcca tgaggatctt cactaaaaag cttcccatc ctgatctgc agcagaagaa  
1140  
aaagagcagt tgctccataa tgacgagtac caggagacaa tgggtggagtc cacttttatg  
1200  
tacctgagc tggaccttc tactgcccc ctctacaagg acgagaagga gcagctcatc  
1260  
attccccaag tgccactctt caacatcctg gctaagttca atggcatcac tgagaaggaa  
1320  
tataagactt acaaggagaa ctttctgaag cgcttccagc ttaccaagtt gcctccatat  
1380  
ctaacttttt gtatcaagat attcactaag aacaacttct ttgttgagaa gaatccaact  
1440  
agttgtcaat ttccctatta caaatgtgga tctgagagaa tacttgtctg aagaagtaca  
1500  
agcagtacac aagaatacca cctatgacct cattgccaac atcgtgcatg acggcaagcc  
1560  
ctccgagggc tctaccgga tccacgtgct tcatcatggg acaggcaaat ggtatgaatt  
1620  
acaagacctc caggtgactg acatccttc ccagatgatc aactgtcag aggcttacat  
1680  
tcagatttgg aagaggcgag ataatgatga aaccaaccag cagggggctt gaaggaggcg  
1740  
tctagggctt tgctcccaag ggctgtggct gatgatggta aataagaaca cagaagctgt  
1800  
agctgaacac aggtgtgctg gtgggcttc taggccagcc cagcttgat gggttctggc  
1860  
tacaccagag caccaagagc ccacttgctt gggatggccc cacactgtca ctcagttggt  
1920  
ctttgatcat ttttttctag attgatgctc ctttctccca tgcattgagc tcccatctag  
1980  
cttcagcagg gcagaacct tctccagatg tgtgtaactt atgtcttgag tatctgggag  
2040  
tagttgaaga acagataatt ctttccaaac atcaagcctt gggattcttg gagcaagcag  
2100  
aaagccagta acttegtctt gttagaggtg gaggattttc ctatgggttc cccattttcc  
2160  
tgatttgtat ttttagatgg attaaatagt ctctgtttt taaaaaaaaa aaaaaaaaaa  
2220  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa  
2273

&lt;210&gt; 5152

&lt;211&gt; 324

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5152

```

Met Phe Ser Ser Thr Ser Thr Pro Ser Ser Phe Thr Ala Phe Gln Thr
 1           5           10           15
Thr Met Arg Ser Ser Ile Pro His Trp Arg Ile Ser Arg Met Cys Leu
          20           25           30
Lys Pro Thr Phe Thr Lys Gln Gln Ile Ala Asn Leu Asp Lys Gln Ala
          35           40           45
Lys Leu Ser Arg Ala Tyr Asp Gly Thr Thr Tyr Leu Pro Gly Ile Val
          50           55           60
Gly Leu Asn Asn Ile Lys Ala Asn Asp Tyr Ala Asn Ala Val Leu Gln
65           70           75           80
Ala Leu Ser Asn Val Pro Pro Leu Arg Asn Tyr Phe Leu Glu Glu Asp
          85           90           95
Asn Tyr Lys Asn Ile Lys Arg Pro Pro Gly Asp Ile Met Phe Leu Leu
          100          105          110
Val Gln Arg Phe Gly Glu Leu Met Arg Lys Leu Trp Asn Pro Arg Asn
          115          120          125
Phe Lys Ala His Val Ser Pro His Glu Met Leu Gln Ala Val Val Leu
          130          135          140
Cys Ser Lys Lys Thr Phe Gln Ile Thr Lys Gln Gly Asp Gly Val Asp
145          150          155          160
Phe Leu Ser Trp Phe Leu Asn Ala Leu His Ser Ala Leu Gly Gly Thr
          165          170          175
Lys Lys Lys Lys Lys Thr Ile Val Thr Asp Val Phe Gln Gly Ser Met
          180          185          190
Arg Ile Phe Thr Lys Lys Leu Pro His Pro Asp Leu Pro Ala Glu Glu
          195          200          205
Lys Glu Gln Leu Leu His Asn Asp Glu Tyr Gln Glu Thr Met Val Glu
          210          215          220
Ser Thr Phe Met Tyr Leu Thr Leu Asp Leu Pro Thr Ala Pro Leu Tyr
225          230          235          240
Lys Asp Glu Lys Glu Gln Leu Ile Ile Pro Gln Val Pro Leu Phe Asn
          245          250          255
Ile Leu Ala Lys Phe Asn Gly Ile Thr Glu Lys Glu Tyr Lys Thr Tyr
          260          265          270
Lys Glu Asn Phe Leu Lys Arg Phe Gln Leu Thr Lys Leu Pro Pro Tyr
          275          280          285
Leu Ile Phe Cys Ile Lys Ile Phe Thr Lys Asn Asn Phe Phe Val Glu
          290          295          300
Lys Asn Pro Thr Ser Cys Gln Phe Pro Tyr Tyr Lys Cys Gly Ser Glu
305          310          315          320
Arg Ile Leu Val

```

&lt;210&gt; 5153

&lt;211&gt; 640

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5153

```

nngctagcag gagaggagga ggtagatctc attgtacaca tccgtcttct ggagagaaca
60

```

acctctccta ccattcccttc cttctacacc ttctctgcct gtcattaggtg gctgcaggag  
 120  
 ggggtccacgt tgggagggac aggtgagctg gcctttggtg ctgacacact cctgactttg  
 180  
 ccctttctcc tgcagggggg gccattcccg cagaatgagg ctaatgccat ggatgtgggtg  
 240  
 gtccagtttg ccattccaccg cctgggcttc cagccccagg acatcatcat ctacgcctgg  
 300  
 tccatcggcg gcttcaactgc cacgtgggca gccatgtcct acccagatgt tagtgccatg  
 360  
 atctggatg cctcctttga tgacctggtg cccttggcct tgaaggatcat gccagacagc  
 420  
 tggagttagt gcagctccca ggctgcctt tcctgggaag ggggtgggctg gaactgggaa  
 480  
 ctgttctgag atggctccct tttcttgggt ggggagtaag tcgccccaat gttggaagca  
 540  
 ggaggactcc tttgtctggg ggcctcagtt ttctttctcc gtgaatagtg aggaccttta  
 600  
 tgttgggcaa gggctttgtc tctgccatcc cttcacgcgt  
 640

&lt;210&gt; 5154

&lt;211&gt; 162

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5154

Xaa	Leu	Ala	Gly	Glu	Glu	Glu	Val	Asp	Leu	Ile	Val	His	Ile	Arg	Leu
1				5					10					15	
Leu	Glu	Arg	Thr	Thr	Ser	Pro	Thr	Ile	Pro	Ser	Phe	Tyr	Thr	Phe	Ser
			20					25					30		
Ala	Cys	His	Arg	Trp	Leu	Gln	Glu	Gly	Ser	Thr	Leu	Gly	Gly	Thr	Gly
		35				40						45			
Glu	Leu	Ala	Phe	Gly	Ala	Asp	Thr	Leu	Leu	Thr	Leu	Pro	Phe	Leu	Leu
	50				55						60				
Gln	Gly	Val	Pro	Phe	Pro	Gln	Asn	Glu	Ala	Asn	Ala	Met	Asp	Val	Val
65					70				75					80	
Val	Gln	Phe	Ala	Ile	His	Arg	Leu	Gly	Phe	Gln	Pro	Gln	Asp	Ile	Ile
			85					90					95		
Ile	Tyr	Ala	Trp	Ser	Ile	Gly	Gly	Phe	Thr	Ala	Thr	Trp	Ala	Ala	Met
		100						105					110		
Ser	Tyr	Pro	Asp	Val	Ser	Ala	Met	Ile	Leu	Asp	Ala	Ser	Phe	Asp	Asp
	115						120					125			
Leu	Val	Pro	Leu	Ala	Leu	Lys	Val	Met	Pro	Asp	Ser	Trp	Ser	Glu	Cys
	130					135					140				
Ser	Ser	Gln	Ala	Cys	Pro	Ser	Trp	Glu	Gly	Val	Gly	Trp	Asn	Trp	Glu
145					150					155					160
Leu	Phe														

&lt;210&gt; 5155

&lt;211&gt; 1402

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 5155  
ccaaagtcca gaagttacgc gtcacccttg ctctacagcc aaacatgcag gactctagta  
60  
acccgcgaaa tgatgggata gcgttgcaaa tccttaaaag agtcttaacg aaatcctggc  
120  
tgacattgac ttctccactg caaccatcga gttcattgtc tcctaaacct tgccatggag  
180  
gcctgtggca cctgagccag ccattatcat caccagcact tccatgagct acaagctgga  
240  
cccactgcag tcctcctgac aactgaaat cagagcctgc acacagagga gcagatgctt  
300  
caatgtaaag gtcatttcca ggtccttgac aggcgtgcat ctggggccaga tccatggcaa  
360  
taaccttcag gttgaggcta gagggcttca gatgggcagc ttcgaatgac aggagcaagg  
420  
aacaagaggc cggaaaaggga ggggtgacatt ttcagcatct ataagatcaa ctttagaaat  
480  
at ttgggggt tgacaaattc ccatcaagct ctgtggatct tgtacaacta ctcaccaccg  
540  
gcttctcatc agcacatgat tgggtgcaggg ttctgaggat gattttgaga tgttcctga  
600  
tgtggtcttg tgaggagatt tcatgacgga tggcaggaaa cttcgtggag agatttctga  
660  
agacactcct gagctcccaa caccgggcaa ctctcttcca gaggatattg ggggtggaggg  
720  
tagaagagag gcaaagtcag gtttgtcttc ggatcccctt tcattctccc tttttccac  
780  
cgtaaacc aa ctttggetta cagttagaca ccagttttcg gcagatgaaa tccctctgat  
840  
ttcaggcatt ttgtcaatta agctgctcag caacaatagg ataaacttat gaaaagaaa  
900  
gagtagcagt cccacagaca aagcatccag cccctgcact gagacagtat agggaaggga  
960  
cttggctcctg gcagacagga cagataatca acatcctagt gggccttaca catgtgggca  
1020  
tattcttttc cataccttct tgtctgtttt aacaagctaa cccagtcac agtagcagag  
1080  
agagggtcca tcctaactta gctgaccagg ctggattcct aatcataaaa ccaaaaaagg  
1140  
aagaacctaa ccatttctct ctttcagcta tgtgttccaa gattactgaa gcaggattct  
1200  
ggccttcctg ataagaacat gaccagatcc agctggtttg caacaagatg aacttcagt  
1260  
ctgagctttc accaagtttt tctcactaca atctcattgt aataactaaa tctccacca  
1320  
agatggagggt tatctgccat tttctgtact ctgctcgtt gtgctgctag agccacaagc  
1380  
ctattaaact ttgcctgaaa ta  
1402

<210> 5156  
<211> 118  
<212> PRT

<213> Homo sapiens

<400> 5156

```

Met Asp Leu Ala Gln Met His Ala Cys Gln Gly Pro Gly Asn Asp Leu
 1           5           10           15
Tyr Ile Glu Ala Ser Ala Ala Leu Cys Ala Gly Ser Asp Phe Ser Val
          20           25           30
Ser Gly Gly Leu Gln Trp Val Gln Leu Val Ala His Gly Ser Ala Gly
          35           40           45
Asp Asp Asn Gly Trp Leu Arg Cys His Arg Pro Pro Trp Gln Gly Leu
          50           55           60
Gly Asp Asn Glu Leu Asp Gly Cys Ser Gly Glu Val Asn Val Ser Gln
65           70           75           80
Asp Phe Val Lys Thr Leu Leu Arg Ile Cys Asn Ala Ile Pro Ser Phe
          85           90           95
Arg Gly Leu Leu Glu Ser Cys Met Phe Gly Cys Arg Ala Arg Val Thr
          100          105          110
Arg Asn Phe Trp Thr Leu
          115

```

<210> 5157

<211> 1310

<212> DNA

<213> Homo sapiens

<400> 5157

```

tgatcagaaa ttacctttga cgtgcagtga cagttgattt cctcttgaac tgccggtgaa
60
aacagtctag tacacaggtg ctgtcagccc aggggtgggag caggaaatga ttgctgagcc
120
cggggcaggg gaattgcatt tgcaggaaag agatgcagca tgctcctcac tcttgagtgc
180
ccacctgtcc tgcttctctg caggtgaaaa ctctggggga tgctgatcaa tagagcttgg
240
tcccaagctc tactgggccc ttggaggtag caaggccact gggttgctat cctcttgctg
300
gggatagcaa ccaactggtt gcaaccactg ggttgctatc cttttgctat cctcttgctc
360
atgaccagcc atatggtgag gctggggagt tcacatcctc aggcaggaac tagcagttgt
420
ttatccagca atgectcaag gatgttgcat tgctcccagg agctggctat taggtatgtc
480
ttgtgcggtc agtcagcatc acagacacat agatgctcac cagcctggct tagctgggac
540
ctaaatcttc tggtgaaaag cttttcacta agtgagggtc cttccctgca aatgctgaat
600
ctagcctaata tcgcaaccac acagaatttc atggctttca aaggcttgcc atgtgcccc
660
tctcattcta tactcacatc ccatggaggt gaggattttc acttcttttc tctagacttg
720
gaagctgaga ttcagagagg aagcatccct tgtgcaagat cacatagtca ggaggtgaca
780
cagggtctaag acttgaacca aggtcttaag aggatttctt cttttcagag tctcttccct
840

```

gtccatttct gtgactaagc tgtgcagagg ttgacagcag ggcaagttat attgatattc  
 900  
 atcctttata ggcttcctgc taaaaagctt ctgagattgt ggtcttccaa aaaaaatagg  
 960  
 agcttggttg aagtccccac attttcaagc actcagtgtt ctgcctctgc gaactgtgct  
 1020  
 aacagctcag tgctgtcctg ggagtcctct gactcagaac cctcgaagca tcctgcattg  
 1080  
 tctttaccca ccatcatctt cactaagaga aacatgccta cccatgaagg cgtgtttgat  
 1140  
 tactccaggc ttctggacac acatacccat ggggtgatttt tgctcctcag gcccaatatt  
 1200  
 ctcagacagc ccagcagtgt gaacacacaa tgccaggcca gggaactggg gaccaccatc  
 1260  
 ttgctgatgg gaagggaaca acaggtggcc cagggacatg ctctgcata  
 1310

<210> 5158  
 <211> 82  
 <212> PRT  
 <213> Homo sapiens

<400> 5158  
 Met Thr Ser His Met Val Arg Leu Gly Ser Ser His Pro Gln Ala Gly  
 1 5 10 15  
 Thr Ser Ser Cys Leu Ser Ser Asn Ala Ser Arg Met Leu His Cys Ser  
 20 25 30  
 Gln Glu Leu Ala Ile Arg Tyr Val Leu Cys Gly Gln Ser Ala Ser Gln  
 35 40 45  
 Thr His Arg Cys Ser Pro Ala Trp Leu Ser Trp Asp Leu Asn Leu Leu  
 50 55 60  
 Val Lys Ser Phe Ser Leu Ser Glu Val Pro Ser Leu Gln Met Leu Asn  
 65 70 75 80  
 Leu Ala

<210> 5159  
 <211> 3233  
 <212> DNA  
 <213> Homo sapiens

<400> 5159  
 nnggatccaa taaagtattg agaccaatgt gcaagaaata taattggaaa gcaatgtctt  
 60  
 ccatttcattc agcttttagtt gcatgcagcc atggcacaga gaagggagaa aagaatgtga  
 120  
 gcaaaagtga tcagggaaga tttcctgatg gaggggggag tccaaccggg gtcttcttgg  
 180  
 atagtagcat ttgagtagtg tttaaaaaat aaataaataa aaggagcacg tgagaagtaa  
 240  
 agttgcattt ctggacatga gagcagtgtt gtgaaactta gatgatgcat atagagaagg  
 300  
 cagcgagtgt gtttgaggat agtgagcgaa cagtttgtct gttcacggac atctgtccag  
 360

agtggcaagc acatagtggg taaccagaat gggcctcttc cttttccttt ttggttacct  
420  
cacaactcag tataggtact gactgcaaaa tctccacatt tgtatatttc ttagcgtaat  
480  
gaaggcgatc tcttccaccg gctgtggcac atcatgaatg aaatcctgga cctgaggcgg  
540  
caggtgctgg tgggccacct caccacgac cggatgaagg acgtgaagcg ccacattact  
600  
gccccggcttg actggggcaa tgaacaactg ggactggacc tgggtgcctag gaaagagtac  
660  
gcaatgggtgg atccggaaga catcagcatt actgagctct accgattgtc catgctgac  
720  
atgtttttgt tgggggggtgt cattcagatg gaacatcgac atcggaagaa agacaccccc  
780  
gtgcaggcca gcagtcacca cctctttgtc cagatgaaga gcctcatgtg ttccaacctg  
840  
ggagaggagc tggaggtcat cttctcactc tttgacagta aagagaaccg gccaatcagt  
900  
gagagatttt tcttgaggct gaatagaaac gggcttccca aagcccctga taaaccggaa  
960  
cgacattgct ccctctttgt ggatttgggc agcagtgagc taagaaagga catttatatc  
1020  
accgtgcaca ttatccgaat cggtcgaatg ggagcaggag aaaaaaagaa tgctgtagt  
1080  
gtccagtacc gacgacctt tggctgtgca gttcttagca tcgctgacct gctaacagga  
1140  
gagacaaagg atgacctcat tctgaaagta tacatgtgta acacagagag tgagtggtag  
1200  
caaatccatg agaacatcat caaaaagctg aatgcacgtt ataacttgac tggctccaat  
1260  
gcaggtttag cagtttctt acagctattg cacggagaca ttgaacaaat cagaagggaa  
1320  
tattcatcag tattttctca tggagtatcc ataacaagga agctgggatt ttcaaatt  
1380  
attatgcctg gtgaaatgag gaatgattta tatatcacta ttgaaagggg agaatttgag  
1440  
aaaggagggg agagcgtggc cagaaatgtg gaagttacga tgttcattgt agacagtagt  
1500  
ggccaaaccc tgaaggattt tatctccttc ggctctgggg agccaccagc cagtgagtag  
1560  
cactcctttg tgctttacca taacaacagt cccaggtggc ctgaactgct gaaacttccc  
1620  
attcctgtgg ataaattccg ggggtgcacac atccgcttcg agtttcggca ttgttcaca  
1680  
aaggagaaaag gagagaagaa gttgtttggg ttttcttttg tccctctgat gcaagaagat  
1740  
ggtaggactc ttccagatgg cactcatgag ctcatcgtgc ataagtgtga agaaaacaca  
1800  
aatcttcagg atactacccg ctacctcaaa cttccctttt ccaagggcat tttccttggg  
1860  
aataataatc aagccatgaa ggccacaaaag gagtcctttt gtattacatc ttttctctgt  
1920  
tccacaaaac tcacacaaaa tggatgatg cttgatcttt tgaaatggag aaccaccca  
1980

gacaagatca ctggctgtct ctctaaatta aaagaaattg atggctcaga gatagtaaag  
 2040  
 tttctgcagg atacactgga taccttattt ggaatttttag atgaaaattc ccaaaaatat  
 2100  
 gggctctaaag tggttgattc tttggttcac ataataaatt tgctgcaaga tagcaaattt  
 2160  
 catcatttta aacctgtaat ggacacttac attgagagtc attttgctgg ggcacttgca  
 2220  
 tacagagatc tcatcaaagt gctcaaattg tacgtggacc ggatcacaga agcagagcgg  
 2280  
 caagagcata tccaggaggt gctgaaggca caagaatata tttttaagta tatagttcaa  
 2340  
 tctcgaaggc tgttttccct tgccactggg gggcaaaaacg aagaggagtt ccgctgctgc  
 2400  
 attcaggagc ttctcatgtc agtccgtttc tttctttcgc aagagagcaa agggctctgga  
 2460  
 gcattatctc agtcacaggc tgtgtttctg agctctttcc ctgccgtgta ctcagaactg  
 2520  
 ttgaagctct ttgatgtccg ggaagtagcc aacttgggtcc aggacacctt gggcagtcgt  
 2580  
 ccgaccatcc tgcattgtga tgattccctg caggccatca aactgcagtg cattggcaaa  
 2640  
 accgtggaaa gccagcttta taccaaccca gattcccgat acattcttct gctgtcgtg  
 2700  
 ttacatcacc tccacattca cttgcaagaa cagaaggacc tgatcatgtg tgcacgtatc  
 2760  
 cttagcaacg tattttgtct tatcaagaaa aatagctcag aaaaatctgt gctggaggaa  
 2820  
 atagatgtga tagtggccag cttgctggat attctgctga ggaccatatt ggagatcacc  
 2880  
 agccgacctc agccatccag ctgagcaatg cggttccagt tccaggatgt cactggggag  
 2940  
 tttgttgctt gtctcctgtc cctattacga caaatgacag atagacatta tcaacagctt  
 3000  
 cttgatagtt ttaatacaaa ggaagaacta agggtaagtg acatttttaa atgttttctt  
 3060  
 taacatatct tttgggttta tcttggtttt attcatcact gttgagataa atcctagaca  
 3120  
 attgctttac ctgtttccat taagttctaa gctgtttttc tcagcctcat ccacagatct  
 3180  
 gctcatctat attggctttt aaagatttct attactcaag caaagctatt aac  
 3233

&lt;210&gt; 5160

&lt;211&gt; 849

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5160

Met	Asn	Glu	Ile	Leu	Asp	Leu	Arg	Arg	Gln	Val	Leu	Val	Gly	His	Leu
1				5					10					15	
Thr	His	Asp	Arg	Met	Lys	Asp	Val	Lys	Arg	His	Ile	Thr	Ala	Arg	Leu
			20					25					30		
Asp	Trp	Gly	Asn	Glu	Gln	Leu	Gly	Leu	Asp	Leu	Val	Pro	Arg	Lys	Glu



	35					40					45				
Tyr	Ala	Met	Val	Asp	Pro	Glu	Asp	Ile	Ser	Ile	Thr	Glu	Leu	Tyr	Arg
	50					55					60				
Leu	Ser	Met	Leu	Ile	Met	Phe	Leu	Leu	Gly	Gly	Val	Ile	Gln	Met	Glu
65					70					75					80
His	Arg	His	Arg	Lys	Lys	Asp	Thr	Pro	Val	Gln	Ala	Ser	Ser	His	His
				85					90					95	
Leu	Phe	Val	Gln	Met	Lys	Ser	Leu	Met	Cys	Ser	Asn	Leu	Gly	Glu	Glu
			100					105					110		
Leu	Glu	Val	Ile	Phe	Ser	Leu	Phe	Asp	Ser	Lys	Glu	Asn	Arg	Pro	Ile
		115					120					125			
Ser	Glu	Arg	Phe	Phe	Leu	Arg	Leu	Asn	Arg	Asn	Gly	Leu	Pro	Lys	Ala
	130					135					140				
Pro	Asp	Lys	Pro	Glu	Arg	His	Cys	Ser	Leu	Phe	Val	Asp	Leu	Gly	Ser
145					150					155					160
Ser	Glu	Leu	Arg	Lys	Asp	Ile	Tyr	Ile	Thr	Val	His	Ile	Ile	Arg	Ile
				165					170					175	
Gly	Arg	Met	Gly	Ala	Gly	Glu	Lys	Lys	Asn	Ala	Cys	Ser	Val	Gln	Tyr
			180					185					190		
Arg	Arg	Pro	Phe	Gly	Cys	Ala	Val	Leu	Ser	Ile	Ala	Asp	Leu	Leu	Thr
		195					200					205			
Gly	Glu	Thr	Lys	Asp	Asp	Leu	Ile	Leu	Lys	Val	Tyr	Met	Cys	Asn	Thr
	210					215					220				
Glu	Ser	Glu	Trp	Tyr	Gln	Ile	His	Glu	Asn	Ile	Ile	Lys	Lys	Leu	Asn
225					230					235					240
Ala	Arg	Tyr	Asn	Leu	Thr	Gly	Ser	Asn	Ala	Gly	Leu	Ala	Val	Ser	Leu
				245					250					255	
Gln	Leu	Leu	His	Gly	Asp	Ile	Glu	Gln	Ile	Arg	Arg	Glu	Tyr	Ser	Ser
			260					265					270		
Val	Phe	Ser	His	Gly	Val	Ser	Ile	Thr	Arg	Lys	Leu	Gly	Phe	Ser	Asn
	275						280					285			
Ile	Ile	Met	Pro	Gly	Glu	Met	Arg	Asn	Asp	Leu	Tyr	Ile	Thr	Ile	Glu
	290					295					300				
Arg	Gly	Glu	Phe	Glu	Lys	Gly	Gly	Lys	Ser	Val	Ala	Arg	Asn	Val	Glu
305					310					315					320
Val	Thr	Met	Phe	Ile	Val	Asp	Ser	Ser	Gly	Gln	Thr	Leu	Lys	Asp	Phe
				325					330					335	
Ile	Ser	Phe	Gly	Ser	Gly	Glu	Pro	Pro	Ala	Ser	Glu	Tyr	His	Ser	Phe
			340					345					350		
Val	Leu	Tyr	His	Asn	Asn	Ser	Pro	Arg	Trp	Ser	Glu	Leu	Leu	Lys	Leu
	355						360					365			
Pro	Ile	Pro	Val	Asp	Lys	Phe	Arg	Gly	Ala	His	Ile	Arg	Phe	Glu	Phe
	370					375					380				
Arg	His	Cys	Ser	Thr	Lys	Glu	Lys	Gly	Glu	Lys	Lys	Leu	Phe	Gly	Phe

465	470										475					480				
Asp	Leu	Leu	Lys	Trp	Arg	Thr	His	Pro	Asp	Lys	Ile	Thr	Gly	Cys	Leu					
				485					490					495						
Ser	Lys	Leu	Lys	Glu	Ile	Asp	Gly	Ser	Glu	Ile	Val	Lys	Phe	Leu	Gln					
			500					505					510							
Asp	Thr	Leu	Asp	Thr	Leu	Phe	Gly	Ile	Leu	Asp	Glu	Asn	Ser	Gln	Lys					
	515						520					525								
Tyr	Gly	Ser	Lys	Val	Phe	Asp	Ser	Leu	Val	His	Ile	Ile	Asn	Leu	Leu					
	530					535				540										
Gln	Asp	Ser	Lys	Phe	His	His	Phe	Lys	Pro	Val	Met	Asp	Thr	Tyr	Ile					
545					550					555					560					
Glu	Ser	His	Phe	Ala	Gly	Ala	Leu	Ala	Tyr	Arg	Asp	Leu	Ile	Lys	Val					
			565						570					575						
Leu	Lys	Trp	Tyr	Val	Asp	Arg	Ile	Thr	Glu	Ala	Glu	Arg	Gln	Glu	His					
			580					585					590							
Ile	Gln	Glu	Val	Leu	Lys	Ala	Gln	Glu	Tyr	Ile	Phe	Lys	Tyr	Ile	Val					
	595						600					605								
Gln	Ser	Arg	Arg	Leu	Phe	Ser	Leu	Ala	Thr	Gly	Gly	Gln	Asn	Glu	Glu					
	610					615					620									
Glu	Phe	Arg	Cys	Cys	Ile	Gln	Glu	Leu	Leu	Met	Ser	Val	Arg	Phe	Phe					
625					630					635					640					
Leu	Ser	Gln	Glu	Ser	Lys	Gly	Ser	Gly	Ala	Leu	Ser	Gln	Ser	Gln	Ala					
			645						650					655						
Val	Phe	Leu	Ser	Ser	Phe	Pro	Ala	Val	Tyr	Ser	Glu	Leu	Leu	Lys	Leu					
			660					665					670							
Phe	Asp	Val	Arg	Glu	Val	Ala	Asn	Leu	Val	Gln	Asp	Thr	Leu	Gly	Ser					
	675						680					685								
Leu	Pro	Thr	Ile	Leu	His	Val	Asp	Asp	Ser	Leu	Gln	Ala	Ile	Lys	Leu					
	690					695					700									
Gln	Cys	Ile	Gly	Lys	Thr	Val	Glu	Ser	Gln	Leu	Tyr	Thr	Asn	Pro	Asp					
705					710					715					720					
Ser	Arg	Tyr	Ile	Leu	Leu	Pro	Val	Val	Leu	His	His	Leu	His	Ile	His					
			725						730					735						
Leu	Gln	Glu	Gln	Lys	Asp	Leu	Ile	Met	Cys	Ala	Arg	Ile	Leu	Ser	Asn					
			740					745					750							
Val	Phe	Cys	Leu	Ile	Lys	Lys	Asn	Ser	Ser	Glu	Lys	Ser	Val	Leu	Glu					
	755						760					765								
Glu	Ile	Asp	Val	Ile	Val	Ala	Ser	Leu	Leu	Asp	Ile	Leu	Leu	Arg	Thr					
	770					775					780									
Ile	Leu	Glu	Ile	Thr	Ser	Arg	Pro	Gln	Pro	Ser	Ser	Ser	Ala	Met	Arg					
785					790					795					800					
Phe	Gln	Phe	Gln	Asp	Val	Thr	Gly	Glu	Phe	Val	Ala	Cys	Leu	Leu						

```
<210> 5161
<211> 1645
<212> DNA
<213> Homo sapiens
```

<400> 5161  
ntggggccccc cagatttgcg ccattgcact ccagccttgg gacttgacgc tttcgaaacc  
60  
aaaggagag caaaagcagc cgggagcgcg cgggccgacc tggttctect cccttccac  
120  
ggctgcctta gtacagaatc ttataagtcc tcctccctca gaggctacag atggtgttcc  
180  
gaggccaggg gagtttaaag ctcgatttca cccgcgcagc ctccaatccg ggtgttctga  
240  
gaatcagcca tgtcatccct gtacccatct ctagaggacc taaaagtgga ccaagccatt  
300  
caggcccagg tcagagcctc acccaagatg ccagccctgc cagtccaggc aacagccatt  
360  
tccccaccac cagttttgta cccaaacttg gcagaactgg aaaattatat gggctcttcc  
420  
ctctccagcc aagaagtcca ggagagcctg cttcagattc cagaggggtga cagtacagcg  
480  
gtctcggggc cggggcccg cccagatggtg gcaccggtaa ccgggtacag cctgggctg  
540  
cggcgagctg agatcaagcc cgggggtgcg gagatccacc tgtgcaagga cgagcgcggc  
600  
aagaccgggc tgaggctgcg gaaggctcgac caggggctct ttgtgcagtt ggtccaggcc  
660  
aacaccctg catcccttgt ggggctgcg tttggggacc agctcctgca gattgacggg  
720  
cgtgactgtg ctgggtggag ctgcacaaa gccatcagg tgggtgaagaa ggcacaggc  
780  
gataagattg tcgtggtggt tcgggacagg ccgttccagc ggactgtcac catgcacaa  
840  
gacagcatgg gccacgtcgg cttcgtgatc aagaagggga agattgtctc tctggtcaaa  
900  
gggagttctg cggcctgcaa cgggctcctc accaaccact acgtgtgtga ggtggacggg  
960  
cagaatgtta tcgggctgaa ggacaaaaag atcatggaga ttctggccac ggctgggaac  
1020  
gttgtcacc tgaccatcat cccagtggtg atctacgagc acatggtcaa aaagttgcct  
1080  
ccagtccctg tccaccacac catggaccac tccatcccag atgcctgaag cactggagg  
1140  
gcagggcagg cagggggggc tccccgcct cctgcagcaa agggcaacca ccctcggatg  
1200  
atgggttgca gccggcctg tgcttaaggt gggggctgcc atgagggggg cgtgtccagg  
1260  
agggtgacca tgggatggct tatacacaca ggctccttg gagcctcaga ctccaagcta  
1320  
ggctgaggct caggcagggc ccacaggcag ccgattctct tgtgctgatt taaatgctgg  
1380  
acacggaggc aggtgtttaa aacgctgctt aaagtgcga ctggggccct ttcaagaaat  
1440  
tttgctctac caggaaaaca gttacacatt ttaagagaac agagctacgt tctttgtgag  
1500  
agctttttcc ttggcttgac ttgctctttg tcacagactg cataagttgt cagccttgac  
1560

tatcttttga ataaagattt gatttttaaac aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1620  
 aaaaaaaaaa aaaaaaaaaa aaaaaa  
 1645

<210> 5162  
 <211> 207  
 <212> PRT  
 <213> Homo sapiens

<400> 5162  
 Met Val Ala Pro Val Thr Gly Tyr Ser Leu Gly Val Arg Arg Ala Glu  
 1 5 10 15  
 Ile Lys Pro Gly Val Arg Glu Ile His Leu Cys Lys Asp Glu Arg Gly  
 20 25 30  
 Lys Thr Gly Leu Arg Leu Arg Lys Val Asp Gln Gly Leu Phe Val Gln  
 35 40 45  
 Leu Val Gln Ala Asn Thr Pro Ala Ser Leu Val Gly Leu Arg Phe Gly  
 50 55 60  
 Asp Gln Leu Leu Gln Ile Asp Gly Arg Asp Cys Ala Gly Trp Ser Ser  
 65 70 75 80  
 His Lys Ala His Gln Val Val Lys Lys Ala Ser Gly Asp Lys Ile Val  
 85 90 95  
 Val Val Val Arg Asp Arg Pro Phe Gln Arg Thr Val Thr Met His Lys  
 100 105 110  
 Asp Ser Met Gly His Val Gly Phe Val Ile Lys Lys Gly Lys Ile Val  
 115 120 125  
 Ser Leu Val Lys Gly Ser Ser Ala Ala Cys Asn Gly Leu Leu Thr Asn  
 130 135 140  
 His Tyr Val Cys Glu Val Asp Gly Gln Asn Val Ile Gly Leu Lys Asp  
 145 150 155 160  
 Lys Lys Ile Met Glu Ile Leu Ala Thr Ala Gly Asn Val Val Thr Leu  
 165 170 175  
 Thr Ile Ile Pro Ser Val Ile Tyr Glu His Met Val Lys Lys Leu Pro  
 180 185 190  
 Pro Val Leu Leu His His Thr Met Asp His Ser Ile Pro Asp Ala  
 195 200 205

<210> 5163  
 <211> 1187  
 <212> DNA  
 <213> Homo sapiens

<400> 5163  
 nngtagagac ggggctctcc gtgttgctca ggctggctgc tgcacttcga ttctgtgtct  
 60  
 tgtttctggct gaaggcgccg gccgctcaag cgtgttttcgg cagatatattt tgagaacatt  
 120  
 tttttatttt taaatacatg tatagcatga gtgatggagc caaacacaag ttttgaagcc  
 180  
 aagctcttgg ttctgagaaa caggcccaac actgcacagt gtcattcgca gtcaacccaa  
 240  
 ccactgtctg agttcacgtg acgattttctc ctgccagggtc acgggaagtt gttattttaa  
 300

gatggcagtt attacgaagg ggcgtttgtg gacggagaga tcacgggaga aggccgccgg  
 360  
 cactgggcct ggtcaggaga caccttctct ggacagtttg ttctgggaga gcctcaaggc  
 420  
 tacggcgta tggagtacaa agccggcgga tggtatgaag gggaggtctc ccacggcatg  
 480  
 cgggaaggac acgggtttct ggtggaccgg gatggacaag tgtaccaggg ctcttccat  
 540  
 gacaacaaga ggcacggccc tgggcagatg ctctttcaga acggtgacaa gtacgacggc  
 600  
 gactgggtcc gggaccggcg tcaggacac ggggtgctgc gctgcgcga cggctccacc  
 660  
 tacaaggac agtggcacag cgacgtcttc agtggactgg gcagcatggc ccactgctca  
 720  
 ggggtcacct attatgggtt gtggatcaat ggccaccag cagaacaagc tacgaggatc  
 780  
 gtgatcttgg gtccggaggt gatggaagtg gcccaagggt ctcccttctc ggtgaacgtt  
 840  
 cagctgctgc aggaccacgg ggaaattgcc aagagtaagc atctccaggg ggagatgacc  
 900  
 taacgtttcc aaaagagaaa caggcagcag gttcttaagc agtgaagatg cggacgagat  
 960  
 gttgcatgtg gctcctgagg cacagcagtg acttcgtgcc cagagcctgg cagagaggtc  
 1020  
 gcaggtgtgc cagcttccct gccagtcagg gcagccttgg gtgtgtgtgc aagcatgtgt  
 1080  
 gcacatattg tgtgatgtgc gtgctcctgt atgtgtgtgc atatgtgtgt atgccttgca  
 1140  
 caggtgtgca caggtctgaa tgtgtatacg tgtggggggg cacgcgt  
 1187

&lt;210&gt; 5164

&lt;211&gt; 213

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5164

Arg	Phe	Leu	Leu	Pro	Gly	His	Gly	Lys	Leu	Leu	Phe	Lys	Asp	Gly	Ser
1				5				10						15	
Tyr	Tyr	Glu	Gly	Ala	Phe	Val	Asp	Gly	Glu	Ile	Thr	Gly	Glu	Gly	Arg
		20					25						30		
Arg	His	Trp	Ala	Trp	Ser	Gly	Asp	Thr	Phe	Ser	Gly	Gln	Phe	Val	Leu
		35				40						45			
Gly	Glu	Pro	Gln	Gly	Tyr	Gly	Val	Met	Glu	Tyr	Lys	Ala	Gly	Gly	Cys
	50				55				60						
Tyr	Glu	Gly	Glu	Val	Ser	His	Gly	Met	Arg	Glu	Gly	His	Gly	Phe	Leu
65				70				75						80	
Val	Asp	Arg	Asp	Gly	Gln	Val	Tyr	Gln	Gly	Ser	Phe	His	Asp	Asn	Lys
			85					90					95		
Arg	His	Gly	Pro	Gly	Gln	Met	Leu	Phe	Gln	Asn	Gly	Asp	Lys	Tyr	Asp
		100					105					110			
Gly	Asp	Trp	Val	Arg	Asp	Arg	Arg	Gln	Gly	His	Gly	Val	Leu	Arg	Cys
	115					120					125				
Ala	Asp	Gly	Ser	Thr	Tyr	Lys	Gly	Gln	Trp	His	Ser	Asp	Val	Phe	Ser

130		135		140	
Gly Leu Gly Ser Met Ala His Cys Ser Gly Val Thr Tyr Tyr Gly Leu					
145		150		155	160
Trp Ile Asn Gly His Pro Ala Glu Gln Ala Thr Arg Ile Val Ile Leu					
	165		170		175
Gly Pro Glu Val Met Glu Val Ala Gln Gly Ser Pro Phe Ser Val Asn					
	180		185		190
Val Gln Leu Leu Gln Asp His Gly Glu Ile Ala Lys Ser Lys His Leu					
	195	200		205	
Gln Gly Glu Met Thr					
210					

&lt;210&gt; 5165

&lt;211&gt; 2370

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5165

cagtccagtg ctgctgtcgc tggaaacctg cagagggcgg tgggtgagcg gctggggccc  
60  
cgtggagcca ccatggaccc cgcaggggca gcagaccct cagtgcctcc caatcctttg  
120  
actcacctga gcctgcagga cagatcagag atgcagctgc agagcgaagc cgacaggcgg  
180  
agcctcccgg gcaattggac caggtcatcc ccagagcaca ccaccattct gaggggaggg  
240  
gtgcgaggt gcctgcagca acagtgtgaa cagactgtgc ggatcctgca tgccaagggtg  
300  
gccagaaat catacggaaa tgagaagcgg ttcttctgcc ccccgccctg tgtctacctc  
360  
tcggggcctg gctggagggt gaagccaggg caggatcaag ctcaccaggc gggggaaacg  
420  
gggcccacgg tctgcggtta catgggactg gacagcgcgt ccggcagcgc cactgagacg  
480  
cagaagctga atttcagca gcagccggac tccagggaat tcggctgcgc caagaccctg  
540  
tacatctcag atgcagacaa gaggaagcac ttctggctgg tgcctgcggct ggtgctgcgc  
600  
gggggcccgg agctgggtac cttccacagc cgccttatca aggtcatctc gaagccctcg  
660  
cagaagaagc agtcgctgaa aaacaccgat ctgtgcatat cctccggctc aaaggtctcc  
720  
ctcttcaacc gcctgcgctc tcagacggtc tccacacgct acctctctgt ggaggatggg  
780  
gcctttgtgg ccagtgcacg acagtgggct gccttcacgc tccacctggc tgatgggcac  
840  
tctgcccaag gagaattccc accgcgagag ggctacgttc gctatggctc cctgggtgcag  
900  
ctcgtctgca cggtcaccgg catcacacta cctcccatga tcatccgtaa agtagcaaaa  
960  
cagtgtgcgc tccttgatgt ggatgagccc atctcccage tgcacaagtg tgcattccag  
1020  
tttccaggca gtcccccagg aggggggtgg acctacttat gccttgccac agagaagggtg  
1080

gtgcaatttc aggcctctcc ctgccccaaag gaggcgaaca gggctctgct taacgacagc  
 1140  
 tcttgctgga ccatcatcgg caccgagtcg gtggaatttt ccttcagcac cagcctggcg  
 1200  
 tgtaccctgg agccgggtcac tccgggtgcct ctcatcagca ccctagagct gagcggcggg  
 1260  
 ggcgacgtgg ccacgctgga gctccacgga gagaacttcc acgcggggct caaggtgtgg  
 1320  
 tttggggacg tggaggcaga aaccatgtac aggtacgggg tgnngagccc gcgggtccctg  
 1380  
 gtgtgcgtgg tgccggacgt ggcggccttc tgcagcgact ggcgctggct gcgcgtccc  
 1440  
 atcacaatcc ccatgagcct ggtgcgcgcc gacgggctct tctaccctag tgccttctcc  
 1500  
 ttcacctaca ccccggaata cagcgtgcgg ccgggtcacc ccggcgctccc cgagcccgcc  
 1560  
 accgacgccg acgcgctcct ggagagcatc catcaggagt tcacgcgcac caacttccac  
 1620  
 ctcttcatcc agacttaggc gcgcccggta gccccggctg cccaccctgg agggctgcgc  
 1680  
 ccgcgccagg cgcggggacg tgtttctggg ttctaggccc tgcttcttg cccctttgct  
 1740  
 gcagaagggc agctgaaggc tcaccctaga aaccgggctt ggtgggtctt acccggctca  
 1800  
 ctccctccct tgtccttaca catacaggaa gacaagacct gagggtgct gtctttgtgt  
 1860  
 ccgtcgtgta tggctctccc tgtcttcatt tcttctcact ctgtctctaa acctctctct  
 1920  
 ctctcccttc cccctcagta cttagtctac agacctatgt gcgtgtccct atccttctgt  
 1980  
 ccttttctct cttcagctct cctgcctct cacacacaaat tttacatgcc ccgaggagcc  
 2040  
 aagtttggga catttaccct ccaggcatct atgtcccctc ttgaagagaa aacacacagc  
 2100  
 ttcacacatc caggcatagg gggcaagctc ttggggcatc aggaccctgg agcaccaggc  
 2160  
 ccttctgga atattagatc cacctggaga accgggtctc tctaagtctc acctggggaa  
 2220  
 ttcgggtccca cctggggcac cagttccac ctagagcact gtgtcctgcc ctagagcaca  
 2280  
 aagacctgct cctcccgaga ctctctctga ctgcagccag gcatagtacc cttgcctgtg  
 2340  
 tttgtccct ggtccacaga tttggtggct  
 2370

&lt;210&gt; 5166

&lt;211&gt; 521

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5166

Met	Asp	Pro	Ala	Gly	Ala	Ala	Asp	Pro	Ser	Val	Pro	Pro	Asn	Pro	Leu
1				5				10					15		
Thr	His	Leu	Ser	Leu	Gln	Asp	Arg	Ser	Glu	Met	Gln	Leu	Gln	Ser	Glu

20 25 30  
 Ala Asp Arg Arg Ser Leu Pro Gly Thr Trp Thr Arg Ser Ser Pro Glu  
 35 40 45  
 His Thr Thr Ile Leu Arg Gly Gly Val Arg Arg Cys Leu Gln Gln Gln  
 50 55 60  
 Cys Glu Gln Thr Val Arg Ile Leu His Ala Lys Val Ala Gln Lys Ser  
 65 70 75 80  
 Tyr Gly Asn Glu Lys Arg Phe Phe Cys Pro Pro Cys Val Tyr Leu  
 85 90 95  
 Ser Gly Pro Gly Trp Arg Val Lys Pro Gly Gln Asp Gln Ala His Gln  
 100 105 110  
 Ala Gly Glu Thr Gly Pro Thr Val Cys Gly Tyr Met Gly Leu Asp Ser  
 115 120 125  
 Ala Ser Gly Ser Ala Thr Glu Thr Gln Lys Leu Asn Phe Glu Gln Gln  
 130 135 140  
 Pro Asp Ser Arg Glu Phe Gly Cys Ala Lys Thr Leu Tyr Ile Ser Asp  
 145 150 155 160  
 Ala Asp Lys Arg Lys His Phe Arg Leu Val Leu Arg Leu Val Leu Arg  
 165 170 175  
 Gly Gly Arg Glu Leu Gly Thr Phe His Ser Arg Leu Ile Lys Val Ile  
 180 185 190  
 Ser Lys Pro Ser Gln Lys Lys Gln Ser Leu Lys Asn Thr Asp Leu Cys  
 195 200 205  
 Ile Ser Ser Gly Ser Lys Val Ser Leu Phe Asn Arg Leu Arg Ser Gln  
 210 215 220  
 Thr Val Ser Thr Arg Tyr Leu Ser Val Glu Asp Gly Ala Phe Val Ala  
 225 230 235 240  
 Ser Ala Arg Gln Trp Ala Ala Phe Thr Leu His Leu Ala Asp Gly His  
 245 250 255  
 Ser Ala Gln Gly Asp Phe Pro Pro Arg Glu Gly Tyr Val Arg Tyr Gly  
 260 265 270  
 Ser Leu Val Gln Leu Val Cys Thr Val Thr Gly Ile Thr Leu Pro Pro  
 275 280 285  
 Met Ile Ile Arg Lys Val Ala Lys Gln Cys Ala Leu Leu Asp Val Asp  
 290 295 300  
 Glu Pro Ile Ser Gln Leu His Lys Cys Ala Phe Gln Phe Pro Gly Ser  
 305 310 315 320  
 Pro Pro Gly Gly Gly Gly Thr Tyr Leu Cys Leu Ala Thr Glu Lys Val  
 325 330 335  
 Val Gln Phe Gln Ala Ser Pro Cys Pro Lys Glu Ala Asn Arg Ala Leu  
 340 345 350  
 Leu Asn Asp Ser Ser Cys Trp Thr Ile Ile Gly Thr Glu Ser Val Glu  
 355 360 365  
 Phe Ser Phe Ser Thr Ser Leu Ala Cys Thr Leu Glu Pro Val Thr Pro  
 370 375 380  
 Val Pro Leu Ile Ser Thr Leu Glu Leu Ser Gly Gly Gly Asp Val Ala  
 385 390 395 400  
 Thr Leu Glu Leu His Gly Glu Asn Phe His Ala Gly Leu Lys Val Trp  
 405 410 415  
 Phe Gly Asp Val Glu Ala Glu Thr Met Tyr Arg Tyr Gly Val Xaa Ser  
 420 425 430  
 Pro Arg Ser Leu Val Cys Val Val Pro Asp Val Ala Ala Phe Cys Ser  
 435 440 445  
 Asp Trp Arg Trp Leu Arg Ala Pro Ile Thr Ile Pro Met Ser Leu Val



450		455		460											
Arg	Ala	Asp	Gly	Leu	Phe	Tyr	Pro	Ser	Ala	Phe	Ser	Phe	Thr	Tyr	Thr
465				470					475					480	
Pro	Glu	Tyr	Ser	Val	Arg	Pro	Gly	His	Pro	Gly	Val	Pro	Glu	Pro	Ala
			485						490					495	
Thr	Asp	Ala	Asp	Ala	Leu	Leu	Glu	Ser	Ile	His	Gln	Glu	Phe	Thr	Arg
			500					505					510		
Thr	Asn	Phe	His	Leu	Phe	Ile	Gln	Thr							
	515					520									

&lt;210&gt; 5167

&lt;211&gt; 878

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5167

```

gggccccgga ccaggcgctg gggacacagc agtgaaaata ctaacattgt ttctgccctc
60
acggagctca cagtgttaaca gggagacaaa tagacctgtc agtagataac atgaaaataa
120
ttggactgtg tgctgcagac acaatatccc aggtctatga gaatgtcaat acagacttca
180
cgtgggaaat ggtgaggcaa taaggatcgt ttcccttgat gaaatggagc ttgcagaaga
240
aggcagggtc agttgtgggg agctctgggt ggaggtggag ggagtgcatt ccaagctgag
300
ccaagctatg acacctgagt ttctgecte tgtgctgcct ccctgttttc cattcccggg
360
tctcagcttc acttgtgggc tgagagtccc tgcgtgggtt atttttctgc ctttctcagg
420
gccttgggtt ccccaaagt ccatgggca cagtaacacc catgtcctag ggttgaagat
480
ggcatgatat gatgtatgta aaatgcttgg cacaagggtt ctcaccgaag tctggaggag
540
ctgtccaggg ttctggagac gaaacggagc ccgctgggaa ctgtcctgag ccccggtgct
600
gaaacagatc gcggttctct tctcggacct cccgagaggc gctgtccgga tatttgggtg
660
tccaagcag tcagccctgc tggctctctgc ttccagacc gtcaaacttc gccatctctg
720
tccctttttg ggaaaatgtc catgcgccaa cctgcaaacc agcctcatte ccggcatccc
780
acgtccctca gaccaccct cctcccacgc agctgcggga ctccccctct gtgtgcctca
840
cctgcttcca gtcttgttgg cagatgcagg tgtcccgt
878

```

&lt;210&gt; 5168

&lt;211&gt; 199

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5168

```

Met Pro Gly Met Arg Leu Val Cys Arg Leu Ala His Gly His Phe Pro

```

```

1           5           10           15
Lys Lys Gly Gln Arg Trp Arg Ser Leu Thr Val Trp Lys Ala Glu Thr
20           25           30
Ser Arg Ala Asp Cys Leu Gly Ala Pro Asn Ile Arg Thr Ala Pro Leu
35           40           45
Gly Arg Ser Glu Lys Arg Thr Ala Ile Cys Phe Ser Thr Gly Ala Gln
50           55           60
Asp Ser Ser Gln Arg Ala Pro Phe Arg Leu Gln Asn Pro Gly Gln Leu
65           70           75           80
Leu Gln Thr Ser Val Arg Asn Leu Val Pro Ser Ile Leu His Thr Ser
85           90           95
Tyr His Ala Ile Phe Asn Pro Arg Thr Trp Val Leu Leu Cys Pro Cys
100          105          110
Asp Ile Trp Gly Thr Gln Gly Pro Glu Lys Gly Arg Lys Ile Thr His
115          120          125
Ala Gly Thr Leu Ser Pro Gln Val Lys Leu Arg Thr Gly Asn Gly Lys
130          135          140
Gln Gly Gly Ser Thr Glu Ala Gly Asn Ser Gly Val Ile Ala Trp Leu
145          150          155          160
Ser Leu Glu Cys Thr Pro Ser Thr Ser Thr Gln Ser Ser Pro Gln Leu
165          170          175
Thr Leu Pro Ser Ser Ala Ser Ser Ile Ser Ser Arg Glu Thr Ile Leu
180          185          190
Ile Ala Ser Pro Phe Pro Thr
195

```

<210> 5169  
 <211> 609  
 <212> DNA  
 <213> Homo sapiens

```

<400> 5169
accggtggct ttgcactcta cccgctgctc aacgaggctg cgccgttggc gctggggggcc
60
ggttttggtgc ctgaggagct gccaccatcc cgcgggggggcc tgggtgaggc actgggtgcc
120
gtggagctta gcctcagcga gttcctgcta ctcttcacca ctgctggcat ctacgtggat
180
ggcgcaggcc gcaagtctcg tggccacgag ctgttgtggc cagcagcgcc catgggctgg
240
gggtatgcgg cccctacct gacagtgttc agcgagaact ccatcgatgt gtttgacgtg
300
aggagggcag aatgggtgca gaccgtgccg ctcaagaagg tgcgggccct caatccagag
360
ggctccctgt tcctctacgg caccgagaag gtccgcctga cctacctcag gaaccagctg
420
gcagagaagg acgagttcga catcccggac ctcaccgaca acagccggcg ccagctgttc
480
ctcaccaaga gcaagcgccg cttctttttc cgctgtgctcg aggagcagca gaagcagcag
540
cgcagggaga tgctgaagga cccttttgtg cgctccaagc tcatctcgcc gcctaccaac
600
ttcaaccac
609

```

<210> 5170  
 <211> 203  
 <212> PRT  
 <213> Homo sapiens

<400> 5170  
 Thr Gly Gly Phe Ala Leu Tyr Pro Leu Leu Asn Glu Ala Ala Pro Leu  
 1 5 10 15  
 Ala Leu Gly Ala Gly Leu Val Pro Glu Glu Leu Pro Pro Ser Arg Gly  
 20 25 30  
 Gly Leu Gly Glu Ala Leu Gly Ala Val Glu Leu Ser Leu Ser Glu Phe  
 35 40 45  
 Leu Leu Leu Phe Thr Thr Ala Gly Ile Tyr Val Asp Gly Ala Gly Arg  
 50 55 60  
 Lys Ser Arg Gly His Glu Leu Leu Trp Pro Ala Ala Pro Met Gly Trp  
 65 70 75 80  
 Gly Tyr Ala Ala Pro Tyr Leu Thr Val Phe Ser Glu Asn Ser Ile Asp  
 85 90 95  
 Val Phe Asp Val Arg Arg Ala Glu Trp Val Gln Thr Val Pro Leu Lys  
 100 105 110  
 Lys Val Arg Pro Leu Asn Pro Glu Gly Ser Leu Phe Leu Tyr Gly Thr  
 115 120 125  
 Glu Lys Val Arg Leu Thr Tyr Leu Arg Asn Gln Leu Ala Glu Lys Asp  
 130 135 140  
 Glu Phe Asp Ile Pro Asp Leu Thr Asp Asn Ser Arg Arg Gln Leu Phe  
 145 150 155 160  
 Leu Thr Lys Ser Lys Arg Arg Phe Phe Phe Arg Val Ser Glu Glu Gln  
 165 170 175  
 Gln Lys Gln Gln Arg Arg Glu Met Leu Lys Asp Pro Phe Val Arg Ser  
 180 185 190  
 Lys Leu Ile Ser Pro Pro Thr Asn Phe Asn His  
 195 200

<210> 5171  
 <211> 2060  
 <212> DNA  
 <213> Homo sapiens

<400> 5171  
 gaacagaggg ggtggaaact gcatcacaga tgttttccaa ggtccagggt ggaatctgag  
 60  
 ctctagtgtc tgactttgag atgcattata tttttaacac ataaatgagg ggatccatat  
 120  
 cacattcttt cttgtggacc accaaattga aggctttctt gtaattcaca agcagcagct  
 180  
 ctccagcatc tctccgtagc ctgggtgaag tcccagaagc tgggtgtgcat cattttccaa  
 240  
 ggtggcagag ctgcttgctc tgcagatcat tcctttgaga gaggagtaca agtgaagaaa  
 300  
 caaggaggca cttcctgtag gagcactgat gtgccttgct cacactcccc tctgagcttt  
 360  
 actggtaaga gagctccgac tgaacatgct gagcagttga gcacttttcc atcagcaaca  
 420

acagcgagga tggaaatgga aaggaaccga actaaaatgc atttcccttt gcagggcaga  
480  
gagctaagct cttaggaata gtgttataga aataagcacc ctaacttcaa ttcctgaaaa  
540  
tggtgggttaa tggagagaat tttggagttt cacttaatat tttcccatcg gtcgccataa  
600  
ataagtcttc aggcgctcct agaagagtcc cagcccaagg ctcgattaag gaccacactg  
660  
caggtctgag gctcactgct ctgagtcctg aacaccagag ccctgcagag agtgggtgata  
720  
acacatcatc tctgcaaaga ggaacctctc ccccgccgc cacttcactc aggttctac  
780  
tgagcagcaa ggacagcctg gggtttcaaata gccacttccc ctgctttagg gatccaggtg  
840  
tcctgatagc gtgaccctgc tgaggcaagg tatcaactcc gagagtgact gagtcactga  
900  
gcgtggcaca tgaacaaacg tcatgacaaa gattctctga gtgaagttaa caccacgtat  
960  
tttacctttg caaaaaacaa actggcaccc tgagttctaa ctacggacgg acgatatctt  
1020  
tgccctccaca cccagattcc tggaaatggc taacgtttcc tttctagggg aagggtcgag  
1080  
gaatactcaa gtgctagctt agcagctttg ttcagtccag atcagagctg ttaggtaaaag  
1140  
gcctaaccac ctccctgcag tctcttatat ctcaagcttt aggaacccat ttctaaatgt  
1200  
acactagcgg agaatttata ttgtcagcct tgattaccat aggacaggca gaaaggcgat  
1260  
aatttgtatc ttttaataata aaagaagctt ttaacttttc cagcctatta ttataactga  
1320  
gttatattca ctgtggctca aactaattgg cattgtggaa catttcttta ccttcaaagt  
1380  
tttctccacc aatcatttca gttctattgc agtccctggg ccatatgtcc cctgcaaatt  
1440  
gtgaaagtaa ttagtgacaa aatagcagcc tgctcctttt caatggcgaa actgtcggca  
1500  
ttagcagttt tgggtaagct ggcggacta taacacgtac tggaaacctg ttcctcatca  
1560  
ccacctacca gattctggaa atgccgtctt ctagaaaacg atggcgtttg tgggtggtctt  
1620  
cttttgaaag gaacagtaat ttgtgtggat attgttaaag tgtttaaaga atattttgac  
1680  
aattaagttt acattttaca attgctttat tttttattaa aatagttgta tataaatatt  
1740  
accctatttc actgttggtc aagtaaactt aaaccttgta gacaagtgag tcacctgata  
1800  
tgtatagaag ctgtgatata tagagtacat ttattgtgta aatgtttatg aatataattg  
1860  
ttcctgtgtt tttataagtt ggggatattt tgttggttta cggcaacaaa atttattgca  
1920  
tttaaatggt ttttatgtaa tagaaatcac gcaaaatagt gaaggattta aaatatgtat  
1980  
atgatacatg taaatgtaca aactttagaa agaaataaat ccaacaaatt tcaaaaaaaaa  
2040

aaaaaaaaaa aaaaaaaaaa  
2060

<210> 5172  
<211> 104  
<212> PRT  
<213> Homo sapiens

<400> 5172  
Met Leu Val Asn Gly Glu Asn Phe Gly Val Ser Leu Asn Ile Phe Pro  
1 5 10 15  
Ser Val Ala Ile Asn Lys Ser Ser Gly Ala Pro Arg Arg Val Pro Ala  
20 25 30  
Gln Gly Ser Ile Lys Asp His Thr Ala Gly Leu Arg Leu Thr Ala Leu  
35 40 45  
Ser Pro Glu His Gln Ser Pro Ala Glu Ser Gly Asp Asn Thr Ser Ser  
50 55 60  
Leu Gln Arg Gly Thr Ser Pro Pro Ala Ala Thr Ser Leu Arg Leu Leu  
65 70 75 80  
Leu Ser Ser Lys Asp Ser Leu Gly Phe Lys Cys His Phe Pro Cys Phe  
85 90 95  
Arg Asp Pro Gly Val Leu Ile Ala  
100

<210> 5173  
<211> 557  
<212> DNA  
<213> Homo sapiens

<400> 5173  
ctttgatgcc tttattgatt caacacatgc ttattatatg cttgctgtgt gccgggcccc  
60  
agaccaggcg ctggagacac agcagtgaaa atactaacat tgtttctgcc ctcacggagc  
120  
tcacagtgtg acagggagac aaatagacct gtcagtagat aacatgaaaa taattggact  
180  
atgtgctgca gacacaatat cccaggtcta tgagaatgtc aatacagact tcacgtggga  
240  
aatggtgagg caataaggat cgtttccctt gatgaaatgg agcttgcaga agaaggcagg  
300  
gtcagttgtg gggagctctg gttggagggtg gagggagtgc attccaagct ggaggagctg  
360  
tccagggttc tggagactaa acggagcccc ctgggaactg tcttgagccc cgggtgctgaa  
420  
acagatcgcg gttctcttct cggacctccc gagaagcgct gtccggatat ttggtgctcc  
480  
caagcagtca gccctgctgg tctctgcttt ccagaccggc aaacttcgcc gtctctgtcc  
540  
ctttctggga aaatggc  
557

<210> 5174  
<211> 93  
<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5174

```

Met Glu Leu Ala Glu Glu Gly Arg Val Ser Cys Gly Glu Leu Trp Leu
 1           5           10           15
Glu Val Glu Gly Val His Ser Lys Leu Glu Glu Leu Ser Arg Val Leu
          20           25           30
Glu Thr Lys Arg Ser Pro Leu Gly Thr Val Leu Ser Pro Gly Ala Glu
          35           40           45
Thr Asp Arg Gly Ser Leu Leu Gly Pro Pro Glu Lys Arg Cys Pro Asp
          50           55           60
Ile Trp Cys Ser Gln Ala Val Ser Pro Ala Gly Leu Cys Phe Pro Asp
65           70           75           80
Arg Gln Thr Ser Pro Ser Leu Ser Leu Ser Gly Lys Met
          85           90

```

&lt;210&gt; 5175

&lt;211&gt; 272

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5175

```

ccatggcagc tccagagacc aggtggaggg gaaatcaccc cacgctcccg agcagagagc
60
ttcggagcca gccagcctca ctgtgcgtgg cccacaacag ctgtctccat gtgtcacgtg
120
agggctgccc aacaccaggt agggcagcaa cgcccacgcc ctgcgcgggc acagcctccc
180
agaggtcact gccatgccgc actgaccgga gagagggcag tggtagagagg tgcattgccac
240
cccaggcttg ttccgaaggc ccnnnnnncc nc
272

```

&lt;210&gt; 5176

&lt;211&gt; 90

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5176

```

Met Ala Ala Pro Glu Thr Arg Trp Arg Gly Asn His Pro Thr Leu Pro
 1           5           10           15
Ser Arg Glu Leu Arg Ser Gln Pro Ala Ser Leu Cys Val Ala His Asn
          20           25           30
Ser Cys Leu His Val Ser Arg Glu Gly Cys Pro Thr Pro Gly Arg Ala
          35           40           45
Ala Thr Pro Thr Pro Ser Pro Gly Thr Ala Ser Gln Arg Ser Leu Pro
          50           55           60
Cys Arg Thr Asp Arg Arg Glu Gly Ser Gly Glu Arg Cys Met Pro Pro
65           70           75           80
Gln Ala Cys Ser Glu Gly Pro Xaa Xaa Xaa
          85           90

```

&lt;210&gt; 5177

&lt;211&gt; 637

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5177

```

ntcctagtga gtatcgagtt ggtcttatta tcgcgtgaac tgggagcctt tgtttcctgc
60
gtgtcgcagg aagtgcagtt tcgggtacag ccgctaccag agtccctttc tcgcgaggcg
120
gaagaacccc gatcgtgag gagcaagggg gcgctaggaa agggaactgg gttgcgacgg
180
tccggcgaga gagagctggg gtgctggggt gcggggaagt tggggagcag aggccgcttg
240
gtgtccgagt agggtaagac cgcaccgacc cagtccgtta ggaaagaagg gaaacgaggc
300
aattgtcggg cggatccccg gacggagggc taagggtgtg tggaaggcgc tgctccccgg
360
atggcgaccg cagatactcc ggccccggcc tccagtggcc tctcgccgaa ggaagaaggg
420
gagcttgaag atggggaaat cagtgcgcac gataataaca gccagatacg gagtcggagc
480
agcagcagca gcagcggcgg cgggctgtta ccctatccgc ggcggaaggcc tcctcactcg
540
gccccggggc gtggatctgg cggaggcggg ggctcttctt cgtcatcgtc ctcttctcag
600
cagcagctga ggaatttctc acgctcgcgg cagcgt
637

```

&lt;210&gt; 5178

&lt;211&gt; 92

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5178

```

Met Ala Thr Ala Asp Thr Pro Ala Pro Ala Ser Ser Gly Leu Ser Pro
 1           5           10          15
Lys Glu Glu Gly Glu Leu Glu Asp Gly Glu Ile Ser Asp Asp Asp Asn
      20          25          30
Asn Ser Gln Ile Arg Ser Arg Ser Ser Ser Ser Ser Gly Gly Gly
 35          40          45
Leu Leu Pro Tyr Pro Arg Arg Arg Pro Pro His Ser Ala Arg Gly Gly
 50          55          60
Gly Ser Gly Gly Gly Gly Gly Ser Ser Ser Ser Ser Ser Ser Ser Gln
65          70          75          80
Gln Gln Leu Arg Asn Phe Ser Arg Ser Arg His Ala
      85          90

```

&lt;210&gt; 5179

&lt;211&gt; 1527

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5179

```

ggaacacagg ccatgccgcc tcctctctct tgggattacc accagtgcac ctggaactat
60

```

gaagttgagc cggatgtaaa agcagtggat gcagggtttg atgggcatga cattccttat  
120  
gatgccatgt ggctggacat agagcacact gagggcaaga ggtacttcac ctgggacaaa  
180  
aacagattcc ctaaccccaa gaggatgcaa gagctgctca ggaacaaaaa gcgtaagctt  
240  
gtgggtcatca gtgatcccca catcaagatt gaacctgact actcagtata tgtgaaggcc  
300  
aaagatcagg gcttctttgt gaagaatcag gaaggggaag actttgaagg ggtgtgttgg  
360  
ccagggtctct cctcttacct ggatttcacc aatcccaagg tcagagagtg gtattcaagt  
420  
ctttttgctt tccctgttta tcagggatct acggacatcc tcttcctttg gaatgacatg  
480  
aatgagcctt ctgtcttttag agggccagag caaaccatgc agaagaatgc cattcatcat  
540  
ggcaattggg agcacagaga gctccacaac atctacggtt tttatcatca aatggctact  
600  
gcagaaggac tgataaaacg atctaaaggg aaggagagac cctttgttct tacacgttct  
660  
ttctttgctg gatcacaaaa gtatgggtgcc gtgtggacag gcgacaacac agcagaatgg  
720  
agcaacttga aaatttctat cccaatgtta ctactctca gcattactgg gatctctttt  
780  
tgcggagctg acataggcgg gttcattggg aatccagaga cagagctgct agtgcgttgg  
840  
taccaggctg gagectacca gcccttcttc cgtggccatg ccaccatgaa caccaagcga  
900  
cgagagccct ggctctttgg ggaggaacac acccgactca tccgagaagc catcagagag  
960  
cgctatggcc tccgtccata ttgggtattct ctgttctacc atgcacacgt ggcttcccaa  
1020  
cctgtcatga ggctctgtg ggtagagttc cctgatgaac taaagacttt tgatatggaa  
1080  
gatgaatata tgctggggag tgcattattg gttcatccag tcacagaacc aaaagccacc  
1140  
acagttgatg tgtttcttcc aggatcaa at gaggtctgg atgactataa gacatttgct  
1200  
cattgggaag gaggggtgtac tgtaaagatc ccagtagcct tggacactat tccagtgttt  
1260  
cagcgagggtg gaagtgtgat accaataaag acaactgtag gaaaatccac aggctggatg  
1320  
actgaatcct cctagggact ccgggttgct ctaagcacta agggttcttc agtgggtgag  
1380  
ttatatcttg atgatggcca ttcattccaa tacctccacc agaagcaatt tttgcacagg  
1440  
aagtttcat tctgttccag tgttctgatc aatagttttg ctgaccagag gggtcattat  
1500  
cccagcaagt gtgtgggtgga gaagatc  
1527

&lt;210&gt; 5180

&lt;211&gt; 444

&lt;212&gt; PRT



&lt;213&gt; Homo sapiens

&lt;400&gt; 5180

Gly Thr Gln Ala Met Pro Pro Pro Leu Ser Trp Asp Tyr His Gln Cys  
 1 5 10 15  
 Thr Trp Asn Tyr Glu Val Glu Pro Asp Val Lys Ala Val Asp Ala Gly  
 20 25 30  
 Phe Asp Gly His Asp Ile Pro Tyr Asp Ala Met Trp Leu Asp Ile Glu  
 35 40 45  
 His Thr Glu Gly Lys Arg Tyr Phe Thr Trp Asp Lys Asn Arg Phe Pro  
 50 55 60  
 Asn Pro Lys Arg Met Gln Glu Leu Leu Arg Asn Lys Lys Arg Lys Leu  
 65 70 75 80  
 Val Val Ile Ser Asp Pro His Ile Lys Ile Glu Pro Asp Tyr Ser Val  
 85 90 95  
 Tyr Val Lys Ala Lys Asp Gln Gly Phe Phe Val Lys Asn Gln Glu Gly  
 100 105 110  
 Glu Asp Phe Glu Gly Val Cys Trp Pro Gly Leu Ser Ser Tyr Leu Asp  
 115 120 125  
 Phe Thr Asn Pro Lys Val Arg Glu Trp Tyr Ser Ser Leu Phe Ala Phe  
 130 135 140  
 Pro Val Tyr Gln Gly Ser Thr Asp Ile Leu Phe Leu Trp Asn Asp Met  
 145 150 155 160  
 Asn Glu Pro Ser Val Phe Arg Gly Pro Glu Gln Thr Met Gln Lys Asn  
 165 170 175  
 Ala Ile His His Gly Asn Trp Glu His Arg Glu Leu His Asn Ile Tyr  
 180 185 190  
 Gly Phe Tyr His Gln Met Ala Thr Ala Glu Gly Leu Ile Lys Arg Ser  
 195 200 205  
 Lys Gly Lys Glu Arg Pro Phe Val Leu Thr Arg Ser Phe Phe Ala Gly  
 210 215 220  
 Ser Gln Lys Tyr Gly Ala Val Trp Thr Gly Asp Asn Thr Ala Glu Trp  
 225 230 235 240  
 Ser Asn Leu Lys Ile Ser Ile Pro Met Leu Leu Thr Leu Ser Ile Thr  
 245 250 255  
 Gly Ile Ser Phe Cys Gly Ala Asp Ile Gly Gly Phe Ile Gly Asn Pro  
 260 265 270  
 Glu Thr Glu Leu Leu Val Arg Trp Tyr Gln Ala Gly Ala Tyr Gln Pro  
 275 280 285  
 Phe Phe Arg Gly His Ala Thr Met Asn Thr Lys Arg Arg Glu Pro Trp  
 290 295 300  
 Leu Phe Gly Glu Glu His Thr Arg Leu Ile Arg Glu Ala Ile Arg Glu  
 305 310 315 320  
 Arg Tyr Gly Leu Leu Pro Tyr Trp Tyr Ser Leu Phe Tyr His Ala His  
 325 330 335  
 Val Ala Ser Gln Pro Val Met Arg Pro Leu Trp Val Glu Phe Pro Asp  
 340 345 350  
 Glu Leu Lys Thr Phe Asp Met Glu Asp Glu Tyr Met Leu Gly Ser Ala  
 355 360 365  
 Leu Leu Val His Pro Val Thr Glu Pro Lys Ala Thr Thr Val Asp Val  
 370 375 380  
 Phe Leu Pro Gly Ser Asn Glu Val Trp Tyr Asp Tyr Lys Thr Phe Ala  
 385 390 395 400  
 His Trp Glu Gly Gly Cys Thr Val Lys Ile Pro Val Ala Leu Asp Thr

```
<210> 5181
<211> 4961
<212> DNA
<213> Homo sapiens
```

4358

ggcttcttcc agggagatat ccgccttctc tcagatgaca tgaaggctct atgccccacc  
1320  
atcttccttg tggteccacg actgctgaac cggatgtacg acaagatctt cagccaggca  
1380  
aacacaccat taaagcgctg gctcctggag tttgcagcaa agcgtaagca agccgaggtc  
1440  
cggagtggaa tcatcaggaa tgatagtatc tgggatgaac tcttctttaa taagattcag  
1500  
gccagtcttg gtgggtgtgt gcggatgatt gttactggag cagccccagc atcaccaaca  
1560  
gttctgggat ttctccgggc agctctaggg tgccagggtt atgaaggtta, tggccaaact  
1620  
gagtgcacag ctggatgtac cttcaccact cctggcgact ggacctcagg gcacgtaggg  
1680  
gcgccacttc cctgcaatca tatcaagctc gttgatgttg aggaactgaa ctactgggcc  
1740  
tgcaaaggag agggagagat atgtgtgaga ggaccaaagtg tgttcaaagg ctacttgaaa  
1800  
gatccagaca ggacgaagga ggccctggac agcgatggct ggcttcacac tggagacatc  
1860  
ggaaaatggc tgccggcagg aactcttaaa attattgacg ggaaaaagca tatatttaaa  
1920  
cttgctcagg gagaatatgt tgcacccgag aagattgaga acatctacat ccggagccaa  
1980  
cctgtggcgc aaatctatgt ccatggggac agcttaaagg ccttttttgt aggcattgtt  
2040  
gtgcctgacc ctgaagttat gccctcctgg gcccagaaga gaggaattga aggaacatat  
2100  
gcagatctct gcacaaataa ggatctgaag aaagccattt tggaagatat ggtgaggtta  
2160  
ggaaaagaaa gtggactcca ttcttttgag cagggttaaag ccattcacat ccattctgac  
2220  
atgttctcag ttcaaaatgg cttgctgaca ccaacactaa aagctaagag acctgagctg  
2280  
agagagtact tcaaaaaaca aatagaagag ctttactcaa tctccatgtg aagttcaagg  
2340  
aaagttcttc tcagtgtaat gaactgtcta gcaatattat agttattctt gaaagtaatg  
2400  
agtcaaaatg acacagctga aaatgaataa gcattctgatt ttatgactga gccttttctt  
2460  
gtcccaagag gtctttaaca atattttctc tatcatcaat gagtatattt tatttttatt  
2520  
ataaaaatga tattgtgggtg gactgctaaa aatatcacia atggcaatgt aaaaatcaag  
2580  
acattttctc aagaactgtg taccactaaa agtaatatat tgtcaatgtt cacagaacta  
2640  
ttaaacataa aggaaaaaca taagtgtat attctactta attatttggt aatcagtaac  
2700  
cagatgcagc aaatatctag gcaatgtgga ctacctcatt cagtaactga ttgtcaaaat  
2760  
cacaattaaa tcagacttca aaaattaaag ctaggtgtat agaatcatgc taaaagaaaa  
2820  
catgataact catagtctac gtaacttcag agtctttaaa catgacaatc cacattgtca  
2880

tatgtgaaaa ttttctctct gatttttact ttcattcatg aaaaatgaaa attcagaaat  
2940  
tctttttttt ctttttgttt tgagacgggg tctgctctgt cacctaggct ggagtgcagt  
3000  
ggcttaataca tggctcattg cagtctccat ctctggggct cgagtgatcc tctgtctca  
3060  
cctcccgagt agctgagact acagtacagg cgcattgccac cacacctggc taatagaaat  
3120  
ttttttttta gagattttgc tcaggctggg ctcaaactcc tgagctcaag ggatcctccc  
3180  
gccttggcct ccctagggtgc tgggattgca ggcattgagcc attgttccca gccaaattca  
3240  
gatattatta aaacacatgt catatttata tagtaactta caaagacctt tcaatacatt  
3300  
ttctcattta ttaagctcat taaagtattc aggaactacc tagaaaaaat ataatgtaaa  
3360  
actattcaag gatagtgtgt gtatgttcat ggacttctta ttataatgaa ttctaaaaga  
3420  
catctgttga ctctacaatg aatggatcct tgaggaatac ttgggagaag aaactcagag  
3480  
ttatttctca ggataggcag caattaatgt acctacattc cttgctgggg tcttctagtc  
3540  
ttccattccc aatgtgccca tgctatgcct ggaaacccta tatgggttga attctgaaca  
3600  
atttcacttt ttttccagta agaatatcaa ggcagaagggt gggaaggagg ggacattatt  
3660  
tccagggaaa atagtttttt aacaatataa ctttgataaa cctcttttaa atgccccaa  
3720  
aaaacttttt aagtccatag acaaagaaat actgcctaata ggcataatta cattcctaaa  
3780  
atctttaagc gtgccgaagt ttaaccacta aaacctcctt tcttgcatta tgtattttaga  
3840  
tgcacctgt attgggggtgt caacaatttc ttataattaa aggccagata ccatggacag  
3900  
caattaagtt ccaagctata gattgtgcct ctgaaaaagg catggacccc aggaacgtgt  
3960  
ttttcttctg tagagacaag actctaaaag catatcaaca atccatatgc aattcatgtg  
4020  
ttaattttaa atgtatgtgc tcagtgttg tagtctagaa gtccttttc cttggaggaa  
4080  
tgccaagcag ttgcaaaaa taaatgctgt tagttaaaaa ccacataatc acatgggcct  
4140  
actgaataaa tatgcatcag tgattatata cttatatctt agtcttgtca aaagtgaatc  
4200  
actgtttcat ttgatgtatt taccagctct ttttatccag ttttcttgg gcatattctc  
4260  
tctgaagacc cactgttgca cttctaaatt tgacagttaa gaaatgagct agttctatac  
4320  
acactgattt ttaaaggcgt ttctgaataa actaatactt aaaatgtcca aagtcacatc  
4380  
tgtacagcat tagattttta tatttaatat atatttgact aattaaaagt gaaagttgtt  
4440  
acctgaactg gatattcata ctattttaag ggcaagttgc ttacatttca ataacaacaa  
4500

aaaaagaatc tgtttcccat tgtcctccta ctcaactaaa attcatagtt ggctttaagc  
 4560  
 ccaaaagaat tttgaacaat gtgacagaaa caagtaatgt aaaacttatt ttgttttatt  
 4620  
 tatactttat aatagttaga tataacagat tatggacaac ttaatatattc ttctttttgg  
 4680  
 ctggggcgcg tggtcatgct ctgtggtccc ggcacttttg gagggccgagg cgggcagatc  
 4740  
 acgaggtcag gagatcgaga ccatactggc taacacagtg aaaccccgct tctactaaaa  
 4800  
 gaatacaaaa aattagccgg gcgttggtggc gggcgccctgt agtcccagct actcgggagg  
 4860  
 ctgaggcagg ggaatggcat gagcctggga ggcggagctt gcagtgagcc gagatcccg  
 4920  
 cactgtactc cagcctgggc aacagaacga gactccgtct c  
 4961

&lt;210&gt; 5182

&lt;211&gt; 697

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5182

Met	Gln	Thr	Gln	Glu	Ile	Leu	Arg	Ile	Leu	Arg	Leu	Pro	Glu	Leu	Gly
1			5					10					15		
Asp	Leu	Gly	Gln	Phe	Phe	Arg	Ser	Leu	Ser	Ala	Thr	Thr	Leu	Val	Ser
			20					25					30		
Met	Gly	Ala	Leu	Ala	Ala	Ile	Leu	Ala	Tyr	Trp	Phe	Thr	His	Arg	Pro
		35					40					45			
Lys	Ala	Leu	Gln	Pro	Pro	Cys	Asn	Leu	Leu	Met	Gln	Ser	Glu	Glu	Val
		50				55				60					
Glu	Asp	Ser	Gly	Gly	Ala	Arg	Arg	Ser	Val	Ile	Gly	Ser	Gly	Pro	Gln
65					70				75					80	
Leu	Leu	Thr	His	Tyr	Tyr	Asp	Asp	Ala	Arg	Thr	Met	Tyr	Gln	Val	Phe
			85					90						95	
Arg	Arg	Gly	Leu	Ser	Ile	Ser	Gly	Asn	Gly	Pro	Cys	Leu	Gly	Phe	Arg
			100					105					110		
Lys	Pro	Lys	Gln	Pro	Tyr	Gln	Trp	Leu	Ser	Tyr	Gln	Glu	Val	Ala	Asp
		115					120					125			
Arg	Ala	Glu	Phe	Leu	Gly	Ser	Gly	Leu	Leu	Gln	His	Asn	Cys	Lys	Ala
		130				135					140				
Cys	Thr	Asp	Gln	Phe	Ile	Gly	Val	Phe	Ala	Gln	Asn	Arg	Pro	Glu	Trp
145					150				155					160	
Ile	Ile	Val	Glu	Leu	Ala	Cys	Tyr	Thr	Tyr	Ser	Met	Val	Val	Val	Pro
			165					170						175	
Leu	Tyr	Asp	Thr	Leu	Gly	Pro	Gly	Ala	Ile	Arg	Tyr	Ile	Ile	Asn	Thr
		180						185					190		
Ala	Asp	Ile	Ser	Thr	Val	Ile	Val	Asp	Lys	Pro	Gln	Lys	Ala	Val	Leu
		195					200						205		
Leu	Leu	Glu	His	Val	Glu	Arg	Lys	Glu	Thr	Pro	Gly	Leu	Lys	Leu	Ile
		210				215					220				
Ile	Leu	Met	Asp	Pro	Phe	Glu	Glu	Ala	Leu	Lys	Glu	Arg	Gly	Gln	Lys
225					230					235				240	
Cys	Gly	Val	Val	Ile	Lys	Ser	Met	Gln	Ala	Val	Glu	Asp	Cys	Gly	Gln

4362

675  
 Ile Glu Glu Leu Tyr Ser Ile Ser Met  
 690

680

685

695

<210> 5183  
 <211> 2466  
 <212> DNA  
 <213> Homo sapiens

<400> 5183  
 nngtgcacgt gcccaatgga tgcggcggcg aagggccgct cctcgaagta ttccaacttg  
 60  
 tcccgccagt tggggcccag gtcgttggtg agagttttca tcatctgctt cagtggcatg  
 120  
 agcctgcgct ccgaggaccc ctcaagggaag aaggccgtgc tgggttccag tcctttcctg  
 180  
 tccgaggcca atgcagagcg gatcgtgcgc acgctctgca aggtgcgtgg tgcggcactc  
 240  
 aagctgggccc agatgctgag catccaggat gatgccttta tcaaccccca cctggctaag  
 300  
 atcttcgagc ggggtgcggca gagcgcggac ttcatgccac tgaagcagat gatgaaaact  
 360  
 ctcaacaacg acctgggccc caactggcgg gacaagtgg aatacttcga ggagcggccc  
 420  
 ttcgcccgg catccattgg gcagggtcac ttggcccgaa tgaagggcgg ccgcgagggtg  
 480  
 gccatgaaga tccagtaccc tggcgtggcc cagagcatca acagtgatgt caacaacctc  
 540  
 atggccgtgt tgaacatgag caacatgctt ccagaaggcc tggtccccga gcacctgac  
 600  
 gacgtgctga ggcgggagct ggccctggag tgtgactacc agcgagaggc cgcctgtgcc  
 660  
 cgcaagttca gggacctgct gaagggccac cccttcttct atgtgcctga gattgtggat  
 720  
 gagctctgca gccacatgt gctgaccaca gagctgggtg ctggcttccc cctggaccag  
 780  
 gccgaagggc tcagccagga gattcggaac gagatctgct acaacatcct ggttctgtgc  
 840  
 ctgagggagc tgtttgagtt ccacttcatg caaacagacc ccaactggtc caacttcttc  
 900  
 tatgaccccc agcagcaca ggtggctctt ttggattttg gggcaacgcg ggaatatgac  
 960  
 agatccttca ccgaccteta cattcagatc atcagggctg ctgccgacag ggacagggag  
 1020  
 actgtgcggg cgaaatccat agagatgaag ttcttcaccg gctacgaggt caaggatcatg  
 1080  
 gaagacgccc acttggtatg catcctcatc ctgggggagg ccttcgcctc cgatgagcct  
 1140  
 tttgattttg gcaactcagag caccaccgag aagatccaca acctgattcc cgtcatgctg  
 1200  
 aggcaccgtc tcgtcccccc acccgaggaa acctactccc tgcacaggaa gatggggggg  
 1260  
 tccttctca tctgctccaa gctgaaggcc cgcttcccct gcaaggccat gttcgaggag  
 1320

gcctacagca actactgcaa gaggcaggcc cagcagtagg gctgcggggcc acgcccaggc  
 1380  
 cggtccgcg ggaactctct ccctcagaca ggccaaaaaac cagtagcgag gtcgtggtga  
 1440  
 tgcctttttt aactcctttg cccaataagg ggggtggctg cctggagccc cgtagccagc  
 1500  
 gctttccacg gtttctgttg ctaaattggt gtagggtag aagtgaaga atgaagatga  
 1560  
 agccccactg ctgggtcagt ctgcctccgt gtgtcctctg aaataagcag atgaagatga  
 1620  
 aagggaact ttgttttctt ctttttcctg atgtgaatgt taagcagaag ggagagagtc  
 1680  
 cttactccct tccaatctct gttcagtga aaaccagaa acatgaacag atacgattgt  
 1740  
 gggattttta tcatctgtgt agtaggtgtg tgtatgtgtt tctagagtga gatttgtgtt  
 1800  
 ttctgccctt ttcctctcca gccgatgggc tggagctggg agaggtgctg agctaacagt  
 1860  
 gccacaagt gtccttaag cctgcgaggc ccaggcctgt ggggctgggt ctcacctttg  
 1920  
 acagctgaat gttcctaaag aactgctgcc ccacagtga ggtgggagca gcggaacagg  
 1980  
 gaatgccaga cacaggctcg ctgctgctgg aaggcggggg gggacttctt tctctgtcc  
 2040  
 ggagaggcac aggtgtcacc agttccagcc aaaggctcct cacaggcgt gtgaattttt  
 2100  
 gtacaagtct tgtaattatc gaatcaacaa cttgtttcaa tttaataaaa atgctcatgg  
 2160  
 gaaggcgggc gcggaggcgg ctagaagggt accgcggatc ccagcttctt gcagtcagcc  
 2220  
 ctgaaggatg gctgccatat tgggagacac catcatgggt gctaaaggcc ttgtcaagct  
 2280  
 gaccctgcg ctccgaggac ccctcaggga agaaggccgt gctgggttcc agtcctttcc  
 2340  
 tgtccgaggc caatgcagag cggatcgtgc gcacgctctg caaggtgcgt ggtgcggcac  
 2400  
 tcaagctggg ccagatgctg agcatccagg atgatgcctt tatcaacccc cacctggcta  
 2460  
 agatct  
 2466

&lt;210&gt; 5184

&lt;211&gt; 395

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5184

Pro	Phe	Leu	Ser	Glu	Ala	Asn	Ala	Glu	Arg	Ile	Val	Arg	Thr	Leu	Cys
1				5				10						15	
Lys	Val	Arg	Gly	Ala	Ala	Leu	Lys	Leu	Gly	Gln	Met	Leu	Ser	Ile	Gln
			20					25					30		
Asp	Asp	Ala	Phe	Ile	Asn	Pro	His	Leu	Ala	Lys	Ile	Phe	Glu	Arg	Val
		35					40					45			
Arg	Gln	Ser	Ala	Asp	Phe	Met	Pro	Leu	Lys	Gln	Met	Met	Lys	Thr	Leu



50 55 60  
 Asn Asn Asp Leu Gly Pro Asn Trp Arg Asp Lys Leu Glu Tyr Phe Glu  
 65 70 75 80  
 Glu Arg Pro Phe Ala Ala Ala Ser Ile Gly Gln Val His Leu Ala Arg  
 85 90 95  
 Met Lys Gly Gly Arg Glu Val Ala Met Lys Ile Gln Tyr Pro Gly Val  
 100 105 110  
 Ala Gln Ser Ile Asn Ser Asp Val Asn Asn Leu Met Ala Val Leu Asn  
 115 120 125  
 Met Ser Asn Met Leu Pro Glu Gly Leu Phe Pro Glu His Leu Ile Asp  
 130 135 140  
 Val Leu Arg Arg Glu Leu Ala Leu Glu Cys Asp Tyr Gln Arg Glu Ala  
 145 150 155 160  
 Ala Cys Ala Arg Lys Phe Arg Asp Leu Leu Lys Gly His Pro Phe Phe  
 165 170 175  
 Tyr Val Pro Glu Ile Val Asp Glu Leu Cys Ser Pro His Val Leu Thr  
 180 185 190  
 Thr Glu Leu Val Ser Gly Phe Pro Leu Asp Gln Ala Glu Gly Leu Ser  
 195 200 205  
 Gln Glu Ile Arg Asn Glu Ile Cys Tyr Asn Ile Leu Val Leu Cys Leu  
 210 215 220  
 Arg Glu Leu Phe Glu Phe His Phe Met Gln Thr Asp Pro Asn Trp Ser  
 225 230 235 240  
 Asn Phe Phe Tyr Asp Pro Gln Gln His Lys Val Ala Leu Leu Asp Phe  
 245 250 255  
 Gly Ala Thr Arg Glu Tyr Asp Arg Ser Phe Thr Asp Leu Tyr Ile Gln  
 260 265 270  
 Ile Ile Arg Ala Ala Ala Asp Arg Asp Arg Glu Thr Val Arg Ala Lys  
 275 280 285  
 Ser Ile Glu Met Lys Phe Leu Thr Gly Tyr Glu Val Lys Val Met Glu  
 290 295 300  
 Asp Ala His Leu Asp Ala Ile Leu Ile Leu Gly Glu Ala Phe Ala Ser  
 305 310 315 320  
 Asp Glu Pro Phe Asp Phe Gly Thr Gln Ser Thr Thr Glu Lys Ile His  
 325 330 335  
 Asn Leu Ile Pro Val Met Leu Arg His Arg Leu Val Pro Pro Pro Glu  
 340 345 350  
 Glu Thr Tyr Ser Leu His Arg Lys Met Gly Gly Ser Phe Leu Ile Cys  
 355 360 365  
 Ser Lys Leu Lys Ala Arg Phe Pro Cys Lys Ala Met Phe Glu Glu Ala  
 370 375 380  
 Tyr Ser Asn Tyr Cys Lys Arg Gln Ala Gln Gln  
 385 390 395

&lt;210&gt; 5185

&lt;211&gt; 1657

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5185

gtgcactcac agaattctgct gcttcccagg tcttttggat gtgaaatgaa accccaagga

60

ctgctttaac aaggggcaaa aacacatgca accaaagcca gcagttatgc cgaagcatcc

120

cggattccca tgagaaactc tctggatcta gttcctctac gtcacatgag tgtgcaaaca  
180  
ggagactaca agagttttaa aatactggga ctgctggaga tttccctggc catatatagt  
240  
tcaactgttt cacagatctc actctgtcac ccaggctgga gtacagtggg gcgatctcaa  
300  
cttactgcaa cctccgctc ccggttcaag cgattcgctt gcctctgctt tagctatgtc  
360  
cctttcagaa aaattctact tcaagagaag atttggtttc aggatgtctc ctggactgga  
420  
gggcatgtac ctagagtccc acgaactggc tgggtataca gaaatgtcca gaggccggag  
480  
agcgtttcag atcacatgta ccggatggca gttatggcta tggatgacaa agatgaccgt  
540  
cttaacaaag acncggaagc tatgaagcag ataaccagc tcctaccaga ggacctcaga  
600  
aaggagctct atgaactttg ggaagagtac gagaccaat ctagtgcaga agccaaattt  
660  
gtgaagcagc tagaccaatg tgaaatgatt cttcaagcat ctgaatatga agaccttgaa  
720  
cacaaacctg ggagactgca agacttctat gattccacag caggaaaatt caatcacctt  
780  
gagatagtcc agcttggttc tgaacttgag gcagaaagaa gactaacat agctgcagct  
840  
gccagtgagc cacactcctg agacactctc taaattgctg cactcctgta acaaacatta  
900  
tttttccatt tcattgtatt gtgttttgcc attgttggtc tgttgatttc cctagatgtg  
960  
agtctgtttg ttttcaattg tctgaacttc agcaagaaat gtgatacaac ttgggcaacta  
1020  
aaagaagcca cagaacagga agcggctcatg aaagtgccat ggatgaacac tggaggtggc  
1080  
agtgcctgtt tatgaactaa ataaataaat attaaacacc taaaatatta gaatatttat  
1140  
tggagattta aaatcatctt attctgactt aattaccgat atccccgaag gctaggttca  
1200  
ttgaataata gaaaatttca ttatgattgc ttttaagaac agattcttca gctgatttag  
1260  
tgataagaat ccagaaaaga aaatgtacta gtgatgtatt ctctccccag atgaaattgc  
1320  
tgccttatte agatttactc tcttgagcca gattttgaat ttcactgcag actgcttcag  
1380  
acttctaate ataggcttgt aaacctacta ataggctctg cccctcttcc caatactttt  
1440  
tgtcatttag agatataaac cggggcatat aaaaatgcaa cttgtattcc tttgtatatt  
1500  
tttccctgtc tgacttataa atcttgagac ctttattgta aaagcattta tcatcaggtg  
1560  
agaaatataa ataggaactg gggtcattga gcctcaggta gggaatatat caaccogatt  
1620  
tcttctctc ttttcccttt tataggataa ataatec  
1657

&lt;210&gt; 5186

<211> 243  
 <212> PRT  
 <213> Homo sapiens

<400> 5186  
 Met Arg Asn Ser Leu Asp Leu Val Pro Leu Arg His Met Ser Val Gln  
 1 5 10 15  
 Thr Gly Asp Tyr Lys Ser Leu Lys Ile Leu Gly Leu Leu Glu Ile Ser  
 20 25 30  
 Leu Ala Ile Tyr Ser Ser Leu Val Ser Gln Ile Ser Leu Cys His Pro  
 35 40 45  
 Gly Trp Ser Thr Val Val Arg Ser Gln Leu Thr Ala Thr Ser Ala Ser  
 50 55 60  
 Arg Phe Lys Arg Phe Ala Cys Leu Cys Leu Ser Tyr Val Pro Phe Arg  
 65 70 75 80  
 Lys Ile Leu Leu Gln Glu Lys Ile Trp Phe Gln Asp Val Ser Trp Thr  
 85 90 95  
 Gly Gly His Val Pro Arg Val Pro Arg Thr Gly Trp Val Tyr Arg Asn  
 100 105 110  
 Val Gln Arg Pro Glu Ser Val Ser Asp His Met Tyr Arg Met Ala Val  
 115 120 125  
 Met Ala Met Val Ile Lys Asp Asp Arg Leu Asn Lys Asp Xaa Glu Ala  
 130 135 140  
 Met Lys Gln Ile Thr Gln Leu Leu Pro Glu Asp Leu Arg Lys Glu Leu  
 145 150 155 160  
 Tyr Glu Leu Trp Glu Glu Tyr Glu Thr Gln Ser Ser Ala Glu Ala Lys  
 165 170 175  
 Phe Val Lys Gln Leu Asp Gln Cys Glu Met Ile Leu Gln Ala Ser Glu  
 180 185 190  
 Tyr Glu Asp Leu Glu His Lys Pro Gly Arg Leu Gln Asp Phe Tyr Asp  
 195 200 205  
 Ser Thr Ala Gly Lys Phe Asn His Pro Glu Ile Val Gln Leu Val Ser  
 210 215 220  
 Glu Leu Glu Ala Glu Arg Ser Thr Asn Ile Ala Ala Ala Ala Ser Glu  
 225 230 235 240  
 Pro His Ser

<210> 5187  
 <211> 1712  
 <212> DNA  
 <213> Homo sapiens

<400> 5187  
 nttttgtctt gtcggctcct gtgtgtagga gggatttcgg cctgagagcg ggccgaggag  
 60  
 attggcgacg gtgtcgcccc tggttttcggtt ggcgggtgcc tgggctggtg ggaacagccg  
 120  
 cccgaaggaa gcacatgat ttcggccgcg cagttgttgg atgagttaat gggccgggac  
 180  
 cgaaacctag ccccgacga gaagcgcagc aacgtgcggt gggaccacga gagcgtttgt  
 240  
 aaatattatc tctgtggttt ttgtcctgcg gaattgttca caaatacacg ttctgatctt  
 300

gggtccgtgtg aaaaaattca tgatgaaaat ctacgaaaac agtatgagaa gagctctcgt  
360  
ttcatgaaag ttggctatga gagagatttt ttgcgatact tacagagctt acttgagaa  
420  
gtagaacgta ggatcagacg aggccatgct cgtttggcat tatctcaaaa ccagcagtct  
480  
tctggggccg ctggcccaac aggcaaaaat gaagaaaaaa ttcaggttct aacagacaaa  
540  
attgatgtac ttctgcaaca gattgaagaa ttaggggtctg aaggaaaagt agaagaagcc  
600  
caggggatga tgaaattagt tgagcaatta aaagaagaga gagaactgct aaggtccaca  
660  
acgtcgacaa ttgaaagctt tgctgcacaa gaaaaacaaa tggaagtttg tgaagtatgt  
720  
ggagcctttt taatagtagg agatgcccg tcccgggtag atgaccattt gatgggaaaa  
780  
caacacatgg gctatgccaa aattaaagct actgtagaag aattaaaga aaagttaagg  
840  
aaaagaaccg aagaacctga tcgtgatgag cgtctaaaaa aggagaagca agaaagagaa  
900  
gaaagagaaa aagaacggga gagagaaagg gaagaaagag aaaggaaaag acgaagggaa  
960  
gaggaagaaa gagaaaaaga aagggtcgtg gacagagaaa gaagaaagag aagtcgttca  
1020  
cgaagtagac actcaagccg aacatcagac agaagatgca gcaggtctcg ggaccacaaa  
1080  
aggtcacgaa gtagagaaag aaggcggagc agaagtagag atcgacgaag aagcagaagc  
1140  
catgatcgat cagaaagaaa acacagatct cgaagtcggg atcgaagaag atcaaaaagc  
1200  
cgggatcgaa agtcatataa gcacaggagc aaaagtcggg acagagaaca agatagaaaa  
1260  
tccaaggaga aagaaaagag gggatctgat gataaaaaaa gtagtgtgaa gtccggtagt  
1320  
cgagaaaagc agagtgaaga cacaacact gaatcgaagg aaagtgatac taagaatgag  
1380  
gtcaatggga ccagtgaaga cattaatatc gaagtgcagc gtaagtatgc acagatgaag  
1440  
atggaactaa gccgagtaag aagacatata aaagcctctt ctgaaggaaa agacagtgtg  
1500  
gtcctgcaaa acatttttgag gtacattggt ttgtctcagc tattttttag cagactcgtg  
1560  
ccccattag tgtgcctctt tggaaattat cgccacatt tgtaatatag tcgccattga  
1620  
aaagttaatt atcctttttt tagggatttt gatgtcgttt cttttttttt ttaatacaaa  
1680  
ggttgaactg tttttttttt ctttttttgg tt  
1712

&lt;210&gt; 5188

&lt;211&gt; 489

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5188

```

Met Ile Ser Ala Ala Gln Leu Leu Asp Glu Leu Met Gly Arg Asp Arg
 1           5           10           15
Asn Leu Ala Pro Asp Glu Lys Arg Ser Asn Val Arg Trp Asp His Glu
      20           25           30
Ser Val Cys Lys Tyr Tyr Leu Cys Gly Phe Cys Pro Ala Glu Leu Phe
      35           40           45
Thr Asn Thr Arg Ser Asp Leu Gly Pro Cys Glu Lys Ile His Asp Glu
      50           55           60
Asn Leu Arg Lys Gln Tyr Glu Lys Ser Ser Arg Phe Met Lys Val Gly
65           70           75           80
Tyr Glu Arg Asp Phe Leu Arg Tyr Leu Gln Ser Leu Leu Ala Glu Val
      85           90           95
Glu Arg Arg Ile Arg Arg Gly His Ala Arg Leu Ala Leu Ser Gln Asn
      100           105           110
Gln Gln Ser Ser Gly Ala Ala Gly Pro Thr Gly Lys Asn Glu Glu Lys
      115           120           125
Ile Gln Val Leu Thr Asp Lys Ile Asp Val Leu Leu Gln Gln Ile Glu
      130           135           140
Glu Leu Gly Ser Glu Gly Lys Val Glu Glu Ala Gln Gly Met Met Lys
145           150           155           160
Leu Val Glu Gln Leu Lys Glu Glu Arg Glu Leu Leu Arg Ser Thr Thr
      165           170           175
Ser Thr Ile Glu Ser Phe Ala Ala Gln Glu Lys Gln Met Glu Val Cys
      180           185           190
Glu Val Cys Gly Ala Phe Leu Ile Val Gly Asp Ala Gln Ser Arg Val
      195           200           205
Asp Asp His Leu Met Gly Lys Gln His Met Gly Tyr Ala Lys Ile Lys
210           215           220
Ala Thr Val Glu Glu Leu Lys Glu Lys Leu Arg Lys Arg Thr Glu Glu
225           230           235           240
Pro Asp Arg Asp Glu Arg Leu Lys Lys Glu Lys Gln Glu Arg Glu Glu
      245           250           255
Arg Glu Lys Glu Arg Glu Arg Glu Arg Glu Glu Arg Glu Arg Lys Arg
      260           265           270
Arg Arg Glu Glu Glu Glu Arg Glu Lys Glu Arg Ala Arg Asp Arg Glu
      275           280           285
Arg Arg Lys Arg Ser Arg Ser Arg Ser Arg His Ser Ser Arg Thr Ser
290           295           300
Asp Arg Arg Cys Ser Arg Ser Arg Asp His Lys Arg Ser Arg Ser Arg
305           310           315           320
Glu Arg Arg Arg Ser Arg Ser Arg Asp Arg Arg Arg Ser Arg Ser His
      325           330           335
Asp Arg Ser Glu Arg Lys His Arg Ser Arg Ser Arg Asp Arg Arg Arg
      340           345           350
Ser Lys Ser Arg Asp Arg Lys Ser Tyr Lys His Arg Ser Lys Ser Arg
      355           360           365
Asp Arg Glu Gln Asp Arg Lys Ser Lys Glu Lys Glu Lys Arg Gly Ser
370           375           380
Asp Asp Lys Lys Ser Ser Val Lys Ser Gly Ser Arg Glu Lys Gln Ser
385           390           395           400
Glu Asp Thr Asn Thr Glu Ser Lys Glu Ser Asp Thr Lys Asn Glu Val
      405           410           415
Asn Gly Thr Ser Glu Asp Ile Lys Ser Glu Val Gln Arg Lys Tyr Ala

```

420 425 430  
 Gln Met Lys Met Glu Leu Ser Arg Val Arg Arg His Thr Lys Ala Ser  
 435 440 445  
 Ser Glu Gly Lys Asp Ser Val Val Leu Gln Asn Ile Leu Arg Tyr Ile  
 450 455 460  
 Val Leu Ser Gln Leu Phe Cys Ser Arg Leu Val Pro Pro Leu Val Cys  
 465 470 475 480  
 Leu Phe Gly Asn Tyr Arg Pro His Leu  
 485

<210> 5189  
 <211> 323  
 <212> DNA  
 <213> Homo sapiens

<400> 5189  
 acgcgtgaag ggattacagg catgagccac tgcacctggc caggagaaat tgtttttata  
 60  
 acgtatgaca aatgcttgag taattcctgg cttgaaagtg ggctcacaat aaataactgg  
 120  
 aatccaaaaa taacaaaatg tttagcaatt caggtaatgt caagcagtat tcaaacacat  
 180  
 gaagttaatc attccttaat tcctgtttat ttatatattca tttttgcttt ctttttactc  
 240  
 catgtgttat tcctacagaa gtcacaagtt aaatgttttt ggggaacttt gggggggggggg  
 300  
 gacaaacatc catgtgctgc taa  
 323

<210> 5190  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 5190  
 Met Ser His Cys Thr Trp Pro Gly Glu Ile Val Phe Ile Thr Tyr Asp  
 1 5 10 15  
 Lys Cys Leu Ser Asn Ser Trp Leu Glu Ser Gly Leu Thr Ile Asn Asn  
 20 25 30  
 Trp Asn Pro Lys Ile Thr Lys Cys Leu Ala Ile Gln Val Met Ser Ser  
 35 40 45  
 Ser Ile Gln Thr His Glu Val Asn His Ser Leu Ile Pro Val Tyr Leu  
 50 55 60  
 Tyr Phe Ile Phe Ala Phe Phe Leu Leu His Val Leu Phe Leu Gln Lys  
 65 70 75 80  
 Ser Gln Val Lys Cys Phe Trp Gly Thr Leu Gly Gly Gly Asp Lys His  
 85 90 95  
 Pro Cys Ala Ala  
 100

<210> 5191  
 <211> 1632  
 <212> DNA  
 <213> Homo sapiens

<400> 5191  
tcccgcatTT tagaggtgac tggagaactc tcacgtaggc ggccgccccca atttcccgcc  
60  
cgggtcatcg gggagcccct tcccaagccc cgcaaaccac tgcattgcaaa gaggcaggct  
120  
tccttctgac agcagataac atgtcgcttg cggcgtcagc aagaggcgca tgcgccttgc  
180  
cgtgggaggc cgggtgcgca ggactggaac gcggttcctc cttcttcccc gccccgcccc  
240  
gcttcggcg gaagcggcct caacaaggga aactttattg ttcccgtagg, gcagtcgagg  
300  
atgtcgggga attacgcggc ggggctgtcg ccgtacgcgg acaagggcaa gtgcggcctc  
360  
ccggagatct tcgaccccc ggaggagctg gagcggaagg tgtgggaact ggcgaggctg  
420  
gtctggcagt cttccagtgt ggtgttcac acgggtgccg gcatcagcac tgcctctggc  
480  
atccccgact tcaggggtcc ccacggagtc tggaccatgg aggagcgagg tctggcccc  
540  
aagttcgaca ccacctttga gagcgcgcg cccacgcaga cccacatggc gctgggtgcag  
600  
ctggagcgcg tgggcctcct ccgcttcctg gtcagccaga acgtggacgg gctccatgtg  
660  
cgctcaggct tccccaggga caaactggca gagctccacg ggaacatgtt tgtggaagaa  
720  
tgtgccaagt gtaagacgca gtacgtccga gacacagtcg tgggcacat gggcctgaag  
780  
gccacgggcc ggctctgcac cgtggctaag gcaagggggc tgcgagcctg caggggaggc  
840  
tgcgaggccc ctgaggactc tcctcagctt cctcattgca ggggagagct gagggacacc  
900  
atcttagact gggaggactc cctgcccagc cgggacctgg cactcgccga tgaggccagc  
960  
aggaacgccg acctgtccat cacgctgggt acatcgctgc agatccggcc cagcgggaac  
1020  
ctgccgctgg ctaccaagcg ccggggaggc cgcctgggtc tctcaacct gcagcccacc  
1080  
aagcagacc gccatgctga cctccgcac catggctacg ttgacgaggt catgaccggg  
1140  
ctcatgaagc acctggggct ggagatcccc gcctgggacg gccccctgtg gctggagagg  
1200  
gcgctgccac cctgccccg cccgcccacc cccaagctgg agcccaagga ggaatctccc  
1260  
accggatca acggtcttat ccccgccggc cccaagcagg agccctgcgc ccagcacaac  
1320  
ggctcagagc ccgcccagccc caaacgggag cggcccacca gccctgcccc ccacagacc  
1380  
cccaaaaggg ggcctctggt gcggttcgg gaagaagcca cccccagag gtgacagctg  
1440  
agccccctgc acaccccagc ctctgacttg ctgtgttgc cagaggtgag gctgggcccc  
1500  
ccctggtctc cagcttaaac aggagtgaac tcctctgtc cccagggcct cccttctggg  
1560

ccccctacag cccaccctac ccctcctcca tggggccctgc aggagggggag acccaccttg  
 1620  
 aagtggggga tc  
 1632

<210> 5192  
 <211> 377  
 <212> PRT  
 <213> Homo sapiens

<400> 5192  
 Met Ser Val Asn Tyr Ala Ala Gly Leu Ser Pro Tyr Ala Asp Lys Gly  
 1 5 10 15  
 Lys Cys Gly Leu Pro Glu Ile Phe Asp Pro Pro Glu Glu Leu Glu Arg  
 20 25 30  
 Lys Val Trp Glu Leu Ala Arg Leu Val Trp Gln Ser Ser Ser Val Val  
 35 40 45  
 Phe His Thr Gly Ala Gly Ile Ser Thr Ala Ser Gly Ile Pro Asp Phe  
 50 55 60  
 Arg Gly Pro His Gly Val Trp Thr Met Glu Glu Arg Gly Leu Ala Pro  
 65 70 75 80  
 Lys Phe Asp Thr Thr Phe Glu Ser Ala Arg Pro Thr Gln Thr His Met  
 85 90 95  
 Ala Leu Val Gln Leu Glu Arg Val Gly Leu Leu Arg Phe Leu Val Ser  
 100 105 110  
 Gln Asn Val Asp Gly Leu His Val Arg Ser Gly Phe Pro Arg Asp Lys  
 115 120 125  
 Leu Ala Glu Leu His Gly Asn Met Phe Val Glu Glu Cys Ala Lys Cys  
 130 135 140  
 Lys Thr Gln Tyr Val Arg Asp Thr Val Val Gly Thr Met Gly Leu Lys  
 145 150 155 160  
 Ala Thr Gly Arg Leu Cys Thr Val Ala Lys Ala Arg Gly Leu Arg Ala  
 165 170 175  
 Cys Arg Gly Gly Cys Glu Ala Pro Glu Asp Ser Pro Gln Leu Pro His  
 180 185 190  
 Cys Arg Gly Glu Leu Arg Asp Thr Ile Leu Asp Trp Glu Asp Ser Leu  
 195 200 205  
 Pro Asp Arg Asp Leu Ala Leu Ala Asp Glu Ala Ser Arg Asn Ala Asp  
 210 215 220  
 Leu Ser Ile Thr Leu Gly Thr Ser Leu Gln Ile Arg Pro Ser Gly Asn  
 225 230 235 240  
 Leu Pro Leu Ala Thr Lys Arg Arg Gly Gly Arg Leu Val Ile Val Asn  
 245 250 255  
 Leu Gln Pro Thr Lys His Asp Arg His Ala Asp Leu Arg Ile His Gly  
 260 265 270  
 Tyr Val Asp Glu Val Met Thr Arg Leu Met Lys His Leu Gly Leu Glu  
 275 280 285  
 Ile Pro Ala Trp Asp Gly Pro Arg Val Leu Glu Arg Ala Leu Pro Pro  
 290 295 300  
 Leu Pro Arg Pro Pro Thr Pro Lys Leu Glu Pro Lys Glu Glu Ser Pro  
 305 310 315 320  
 Thr Arg Ile Asn Gly Ser Ile Pro Ala Gly Pro Lys Gln Glu Pro Cys  
 325 330 335  
 Ala Gln His Asn Gly Ser Glu Pro Ala Ser Pro Lys Arg Glu Arg Pro



```

          340          345          350
Thr Ser Pro Ala Pro His Arg Pro Pro Lys Arg Gly Pro Leu Val Arg
          355          360          365
Phe Arg Glu Glu Ala Thr Pro Gln Arg
          370          375

```

<210> 5193  
 <211> 554  
 <212> DNA  
 <213> Homo sapiens

<400> 5193  
 acgcgtccct tcccagaggtt ccaggcggac gtgtcccttc ccgaggttct aggccggacat  
 60  
 gtctttttgag agggcctcag gttaaccac tactgtgtct gaatctgtcc cttccccaag  
 120  
 cagcagctct gtgtcccggc atggccactg tggggcagag acacagcagg tcccatatct  
 180  
 ctgtgccctg cagaccctgc agccctgggg atgctgggtct gggacggacc cctagatatc  
 240  
 acacagccga gaggtaggtc agcgctttta gatgctgata ccgctgggtc agtccttgga  
 300  
 gcagaattct cagggtggat ttccagcaac gcctcctggg agggtcagca ggggctgggg  
 360  
 tccgtggggg ggtctccggg aggtttgcct gtgtcaggcc tgtgctgctt ctggcggagg  
 420  
 cgcttgcca gcctcatcca gcctggtgtc tccggtgcca cgcgctaaca ccttcagtgc  
 480  
 acgctcggga acgcgcctgg aaggccctgc cctgccccgc cccaggtctc agccagatgc  
 540  
 tgccagcacc cggg  
 554

<210> 5194  
 <211> 94  
 <212> PRT  
 <213> Homo sapiens

<400> 5194  
 Met Leu Ile Pro Leu Val Gln Leu Leu Glu Gln Asn Ser Gln Gly Gly  
 1 5 10 15  
 Phe Pro Ala Thr Pro Pro Gly Arg Val Ser Arg Gly Trp Gly Pro Trp  
 20 25 30  
 Gly Gly Leu Arg Glu Val Cys Leu Cys Gln Ala Cys Ala Ala Ser Gly  
 35 40 45  
 Gly Gly Ala Cys Pro Ala Ser Ser Ser Leu Val Ser Pro Val Pro Arg  
 50 55 60  
 Ala Asn Thr Phe Ser Ala Arg Ser Gly Thr Arg Leu Glu Gly Pro Ala  
 65 70 75 80  
 Leu Pro Arg Pro Arg Leu Gln Pro Asp Ala Ala Ser Thr Arg  
 85 90

<210> 5195  
 <211> 964

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5195

```

gggcccaggc tcacagaggt gtgaaagagg caagcacacc gcaggggacct ctgagcccag
60
ccagcctcgc ttcaatgctg ggaggctgac gtcttccttt ttgtcttctg cccaggccag
120
ctgcggggcgc tccagcgggt gtgccacttc tacagcgccg tcatgcccag cgaggcccag
180
tgtgtcatct accatgagct ccagctctcc ctggcctgca aggtggccga caaggtgctg
240
gaggggcagc tcctggagac catcagccag ctctacctgt ccctggggcac cgagcggggc
300
tacaaatccg cactggacta caccaaacga agtctgggga ttttcattga cctccagaag
360
aaagagaagg aggcgcatgc ctggctgcaa gcagggaaga tctattacat cttgcggcag
420
agcgagctgg tggacctcta catccagggt gcacagaacg tggccctgta cacaggcgac
480
cccaacctgg ggctggagct gtttgaggcg gctggagaca tcttcttcga cggggcctgg
540
gagcgggaga aagctgtgtc cttctaccgg gaccggggcc tgcccctggc agtgactacg
600
ggcaaccgca aggcggagct gcggctgtgc aacaagctgg tggcactgct ggccacgctg
660
gaggagcccc aggagggctt ggagtttgcc cacatggccc tagcactcag catcactctg
720
ggggaccggc tgaacgagcg cgtggcctac caccggctgg ccgcctgca acaccgactg
780
ggccatggcg agctggcaga gcacttctac ctcaaggccc tgctcgctctg caactcgccg
840
ctggagtttg acgaggagac cctctactac gtgaaggtgt acctggtgct cggtgacatc
900
atcttctacg acctgaagga cccgtttgat gcagccgggt actaccagct ggcgctggcg
960
gccg
964

```

&lt;210&gt; 5196

&lt;211&gt; 267

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5196

```

Met Pro Ser Glu Ala Gln Cys Val Ile Tyr His Glu Leu Gln Leu Ser
  1             5             10             15
Leu Ala Cys Lys Val Ala Asp Lys Val Leu Glu Gly Gln Leu Leu Glu
             20             25             30
Thr Ile Ser Gln Leu Tyr Leu Ser Leu Gly Thr Glu Arg Ala Tyr Lys
             35             40             45
Ser Ala Leu Asp Tyr Thr Lys Arg Ser Leu Gly Ile Phe Ile Asp Leu
             50             55             60
Gln Lys Lys Glu Lys Glu Ala His Ala Trp Leu Gln Ala Gly Lys Ile

```

```
<210> 5197
<211> 1045
<212> DNA
<213> Homo sapiens
```

4375

gagcgccgag cccgggagga gaggctggcc gcctgtgctg ccaaactcaa gcagctggac  
 720  
 cagaagtgtg agcaggcacg aaaggcaggt gagggccgga agcaggcaga gaaggaagtg  
 780  
 ccctggtctc caagtgtga gaaggcatct ccccaggaaa acggccctgc tgtccacaaa  
 840  
 ggctccccag aattccctgc ccaagagacc cccaccacat tcccagaaga ggcacccaca  
 900  
 gtgtccccag cagtggcaca gagcaacagc agtgaggaag aggccagaga ggctgggtcc  
 960  
 cctgcacagg agttcaagta tcagaagtcc cttcctcccc gattccagcg ccagcagcag  
 1020  
 caacaacagc aggagcagct gtaca  
 1045

&lt;210&gt; 5198

&lt;211&gt; 283

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5198

Leu	Phe	His	Ser	Phe	Ser	Phe	Phe	Leu	Gly	Pro	Pro	Ala	Val	Val	Gly
1				5					10					15	
Pro	His	Glu	Glu	Val	Asp	Tyr	Ser	Glu	Lys	Leu	Lys	Phe	Ser	Asp	Asp
		20						25					30		
Glu	Glu	Glu	Glu	Val	Val	Lys	Asp	Gly	Arg	Pro	Lys	Trp	Asn	Ser	
		35				40					45				
Trp	Asp	Pro	Arg	Arg	Gln	Arg	Gln	Leu	Ser	Met	Ser	Ser	Ala	Asp	Ser
	50				55					60					
Ala	Asp	Ala	Lys	Arg	Thr	Arg	Glu	Glu	Gly	Lys	Asp	Trp	Ala	Glu	Ala
65				70					75					80	
Val	Gly	Ala	Ser	Arg	Val	Val	Arg	Lys	Ala	Pro	Asp	Pro	Gln	Pro	Pro
			85					90					95		
Pro	Arg	Lys	Leu	His	Gly	Trp	Ala	Pro	Gly	Pro	Asp	Tyr	Gln	Lys	Ser
		100					105					110			
Ser	Met	Gly	Ser	Met	Phe	Arg	Gln	Gln	Ser	Ile	Glu	Asp	Lys	Glu	Asp
	115					120					125				
Lys	Pro	Pro	Pro	Arg	Gln	Lys	Phe	Ile	Gln	Ser	Glu	Met	Ser	Glu	Ala
	130				135					140					
Val	Glu	Arg	Ala	Arg	Lys	Arg	Arg	Glu	Glu	Glu	Arg	Arg	Ala	Arg	
145				150					155					160	
Glu	Glu	Arg	Leu	Ala	Ala	Cys	Ala	Ala	Lys	Leu	Lys	Gln	Leu	Asp	Gln
			165					170					175		
Lys	Cys	Lys	Gln	Ala	Arg	Lys	Ala	Gly	Glu	Ala	Arg	Lys	Gln	Ala	Glu
		180					185					190			
Lys	Glu	Val	Pro	Trp	Ser	Pro	Ser	Ala	Glu	Lys	Ala	Ser	Pro	Gln	Glu
	195					200					205				
Asn	Gly	Pro	Ala	Val	His	Lys	Gly	Ser	Pro	Glu	Phe	Pro	Ala	Gln	Glu
	210				215					220					
Thr	Pro	Thr	Thr	Phe	Pro	Glu	Glu	Ala	Pro	Thr	Val	Ser	Pro	Ala	Val
225				230					235					240	
Ala	Gln	Ser	Asn	Ser	Ser	Glu	Glu	Glu	Ala	Arg	Glu	Ala	Gly	Ser	Pro
			245					250					255		
Ala	Gln	Glu	Phe	Lys	Tyr	Gln	Lys	Ser	Leu	Pro	Pro	Arg	Phe	Gln	Arg

260 265 270  
 Gln Gln Gln Gln Gln Gln Gln Glu Gln Leu Tyr  
 275 280

<210> 5199  
 <211> 1332  
 <212> DNA  
 <213> Homo sapiens

<400> 5199  
 nnactagtgc agagtgttta gagatcactc agttttttaa gactggcctt tatcgtgtct  
 60  
 cagtgcagcc gaggcagagc ctttgaagga tgcgatgttg tcattcttac taatctagtc  
 120  
 cagccgctga ggtgactttc aacggcagac cgtctcctga gcgccccagg tagaatttca  
 180  
 aaagtctccg ggaccattat ggcagtcaag tggacgggtg ggcattcttc tcctgtcctc  
 240  
 tgcctgaatg caagtaaaga agggctgctg gcttctggag cagagggcgg agatctcacg  
 300  
 gcttgggggtg aagatggaac tccattagga cacacgcggt tccaaggggc tgatgatgtt  
 360  
 accagtgtct tattttctcc ctctgtccc accaagctct atgcctcaca tggagaaacc  
 420  
 attagtgtac tggatgtcag gtccctcaaa gattccttgg accattttca tgtgaatgaa  
 480  
 gaagaaatca attgtctttc attgaatcaa acggaaaacc tgctggcttc tgctgacgac  
 540  
 tctggggcaa tcaaaatcct agacttgaa aacaagaaag ttatcagatc cttgaagaga  
 600  
 cattccaata tctgtcctc agtggctttt cggcctcaga ggcctcagag cctgggtgtca  
 660  
 tgtggactgg atatgcaggt gatgctgtgg agtcttcaaa aagcccgacc actctggatt  
 720  
 acaaatttac aggaggatga aacagaagaa atggaaggcc cacagtcacc tggtcagctc  
 780  
 ttaaaccctg ccctagccca ttctatctct gtggcttcgt gtggtaatat ttttagttgt  
 840  
 ggtgcagaag atggtaaggt tcgaatcttt cgggtgatgg gagttaagtg tgaacaggaa  
 900  
 ctgggattta agggccacac ttcaggggta tcccagggtc gctttctccc agaatcctat  
 960  
 ttgctgctta ctggagggaa tgatgggaag atcacgttgt gggatgcaaa cagtgaagtt  
 1020  
 gagaaaaaac agaagagtcc caaaaacgt acccacagga agaaacctaa aagaggaact  
 1080  
 tgcaccaagc aggggtggaaa tactaacgct tcagtaacag atgaggaaga acatggcaac  
 1140  
 attttaccga agctaaatat tgaacatgga gaaaaagtga actggctctt gggtaaaaa  
 1200  
 ataaagggac accaaaatat attagtagct gatcaaaacta gttgtatatc tgtatacccc  
 1260  
 ttaaatgaat tttaaatacca ataaaaacat ttgaagaatt gtggcaaaac tgtttttcag  
 1320

attaaaaaaaa aa

1332

<210> 5200

<211> 358

<212> PRT

<213> Homo sapiens

<400> 5200

```

Met Ala Val Lys Trp Thr Gly Gly His Ser Ser Pro Val Leu Cys Leu
 1           5           10           15
Asn Ala Ser Lys Glu Gly Leu Leu Ala Ser Gly Ala Glu Gly Gly Asp
 20           25           30
Leu Thr Ala Trp Gly Glu Asp Gly Thr Pro Leu Gly His Thr Arg Phe
 35           40           45
Gln Gly Ala Asp Asp Val Thr Ser Val Leu Phe Ser Pro Ser Cys Pro
 50           55           60
Thr Lys Leu Tyr Ala Ser His Gly Glu Thr Ile Ser Val Leu Asp Val
 65           70           75           80
Arg Ser Leu Lys Asp Ser Leu Asp His Phe His Val Asn Glu Glu Glu
 85           90           95
Ile Asn Cys Leu Ser Leu Asn Gln Thr Glu Asn Leu Leu Ala Ser Ala
100           105           110
Asp Asp Ser Gly Ala Ile Lys Ile Leu Asp Leu Glu Asn Lys Lys Val
115           120           125
Ile Arg Ser Leu Lys Arg His Ser Asn Ile Cys Ser Ser Val Ala Phe
130           135           140
Arg Pro Gln Arg Pro Gln Ser Leu Val Ser Cys Gly Leu Asp Met Gln
145           150           155           160
Val Met Leu Trp Ser Leu Gln Lys Ala Arg Pro Leu Trp Ile Thr Asn
165           170           175
Leu Gln Glu Asp Glu Thr Glu Glu Met Glu Gly Pro Gln Ser Pro Gly
180           185           190
Gln Leu Leu Asn Pro Ala Leu Ala His Ser Ile Ser Val Ala Ser Cys
195           200           205
Gly Asn Ile Phe Ser Cys Gly Ala Glu Asp Gly Lys Val Arg Ile Phe
210           215           220
Arg Val Met Gly Val Lys Cys Glu Gln Glu Leu Gly Phe Lys Gly His
225           230           235           240
Thr Ser Gly Val Ser Gln Val Cys Phe Leu Pro Glu Ser Tyr Leu Leu
245           250           255
Leu Thr Gly Gly Asn Asp Gly Lys Ile Thr Leu Trp Asp Ala Asn Ser
260           265           270
Glu Val Glu Lys Lys Gln Lys Ser Pro Thr Lys Arg Thr His Arg Lys
275           280           285
Lys Pro Lys Arg Gly Thr Cys Thr Lys Gln Gly Gly Asn Thr Asn Ala
290           295           300
Ser Val Thr Asp Glu Glu Glu His Gly Asn Ile Leu Pro Lys Leu Asn
305           310           315           320
Ile Glu His Gly Glu Lys Val Asn Trp Leu Gly Thr Lys Ile Lys
325           330           335
Gly His Gln Asn Ile Leu Val Ala Asp Gln Thr Ser Cys Ile Ser Val
340           345           350
Tyr Pro Leu Asn Glu Phe

```

355

<210> 5201  
<211> 6104  
<212> DNA  
<213> Homo sapiens

<400> 5201  
nngtgccagt cgtgctttgt gaaaaataac aaagtgggtca cagaaatttg tgatctgaaa  
60  
acccggctcc cttccccaca aggtccttgg gcctccggga agacggggccc ctgtttgcc  
120  
tctcgggggt gttccctgtg ggaggggtgag tgggtgagggc cgagcctgct gcgtgtggag  
180  
cctcgagtgg gccctggctg ccactaccgc acagaggccg tgcgcgctg ggctgggctt  
240  
gggtggcctc tgtctttgca tctctgagaa ggagtcgggt ggtaacgggt ggggtcagga  
300  
agaattctgc caagtatctt tactgtcatt ctgaccatag cctctttgtt cccgcattcg  
360  
aacttttgggt tcttactttg ctgctcgttt agtccctggg gatttcagat cttaggctgt  
420  
tgtttcaccg tatgggaggg ttgatgtgag cttgcttgga gacacacggt gcagcatcag  
480  
ggaccttccc aggccccagc aaattcaagt cgggtctgcag acctctcagc taccgcggg  
540  
acctcttgta acccatcggc atcttccagg aatccgccga gtgacttgag gaagatgcta  
600  
acgcagtaag gtctgtgctg ggccaagagc agctttgaag ctccagagaa ccaccccgtc  
660  
aggttccttg tggaagctcc cctcatccgt ggtgcagcag gctgagcact gcgcgtttgc  
720  
cacgtgctgc ccgtgacagc acattgagcc acagcatttg tagacaggac agaggggtgc  
780  
ctgccccctg cccctgctgg cacatttaac ccttgctccc tgacctcagt tctgtgcccc  
840  
accaaagtc caggggcaag aggccaccct ggaagctgcc aatcttcaa ggtgggtgtg  
900  
gggcacggtg ggggcgggca gctcccaggc ccttgggcag gctggggtga cggcagaggc  
960  
cacagacca gctctgacaa gtcctatcat cctctgctca gcagcgacct cctggcccc  
1020  
actttgccc gagtttgggg tccccccagg tatagctata ggccggcagt cctgtccctg  
1080  
gcctgccttg atttcagcca caccctgca gccctgcac ccagctctgg ggtgtgcaga  
1140  
ggtttgtgtc tccagggaa acacggctgg agagaaatag ggagatgcag gaagtggggg  
1200  
cccatggggc cccaagaag cggactctcc aaggggtacc cccaccccg caccctcccc  
1260  
acggacgggc cctcctgga gcccatacc tctgtgagg ccattccagt gtcttctaga  
1320  
aagactcgt tgccaggagt gcgttctttg ttgaaaaatg cctgaagcg aaaagatgca  
1380

ggtttatatg gaacccccac cccctccccc actctcccac tctgttcggt ctgaatgtct  
1440  
tcacgagcgt gcatcagggc gcctggctcc cccacctcag ccagtgagtc agacacgggt  
1500  
ttcgcagcca tgtttcctgg ctccgaggac acgggtggca ggcccgttgc agcccagagc  
1560  
cactgggtccc tacagggcgc cgccacacca gcaggaagga ggatggctgt gtccggagcc  
1620  
tggcggggag gcggcctccc cagtatgtga gtgcagggat ctgccagaac cacctggccc  
1680  
tctgtagggc gtttaactgg aaataccctc actgccaaagt ggagactggg gcgtgtgcca  
1740  
cattgccagc caccaggaaa gcttttcttt ttcttttttt tttttttttt aaacaccaag  
1800  
agcacgtata gcatggggga aagaacctaa atgtctctct gtccctgtgag ctggtgaaaa  
1860  
acccagcatg agaacgcagt gtcagggtgt ggactccttc tgcccctgca gtgggtgtta  
1920  
cgggcgggtgt gccctggcga gcaagctttg attcttgggt ctttgagctc gtttcagagg  
1980  
ctgagtcctc acatcagctt tagttcttgg acttcctgtg attaagcaag aattaggaga  
2040  
atggctgtcc ctgcaggcgc ctcccgtaaa tcttgagctc tctggcgcaa tctgaaactt  
2100  
ctcttctgtt ttctttggct gtatcagccg aaccaggaga ggccctgggct gcgactaagg  
2160  
agaaagaaat cgggggtttc tgagagcaga tgggtgcctt gtgggtgcag ggcttttgtg  
2220  
gaaattgtca gcctctacgg gcagagtcgc gcacccctc cccagactgc ctgctgtcaa  
2280  
accaggagc agctggagcc tgccctgtcc acggcccgtt tccacccggg catgttcgtc  
2340  
tctcatgact tcggcagagg cccctgggtg ccttcagttt cagtttctca tccaggaagg  
2400  
taaccttggg cattggcagt gggtttccct atggcttgga tccagattag aattgatctt  
2460  
tgttttcact ttccatagtt aataacatgc aaaataatga gaagaattta ttttaagggtg  
2520  
acagctatac tgggtccaaca tcgcctgctt attgtcaggg tacagaagtt taatactttc  
2580  
ttaatccagt ttttcaaact tctccctgta gaccgtaagg atgaattcca caataggatc  
2640  
ctttttaaaa tcgattttta attgttgctt agtccctgca aggttattat gtgcatctgt  
2700  
tatttttcca atacatgtaa acagttgcag catgatgctt tgtttaatgt cctgttctta  
2760  
agctcgttag agccagtttt gaaacgtttg gtcttaccgt gaacggaggc tggcttggct  
2820  
tagccacgct gatgagtaag tgagggatgt ctccatcttg agatcaccag gcaagagagt  
2880  
tgctgcacc aggtaagagg ccaaagcccc tggggtaaca gtccccaccg ctacccgagg  
2940  
taaaacaata aaagctatgt ggttgagctc aggcctctcg tgccctggtgt cagagaaggc  
3000



agagcccaca gtaggtgcag ggtgcaaggc cctgggaggg cactggccag ggaaggtggt  
3060  
atagatggcc ctcagattgc ggggccccga gcagctcccc actctgcccg tccaccttcc  
3120  
ctggctccag cctcattctc tctttagttt aactatgcaa agagaggagg ttgagagtgt  
3180  
tctggcagct ggagctcttt tccttgtcct tcctgcectc cgatggggcc acctgtgtcg  
3240  
gggcagcagt gtccatgttt atggagatca gaggtgtccc cactgtgtgg ctggactgta  
3300  
ctctgctgcc cgggtagcca ggagtctctc cctctctccc ctgccgctg cctggtctca  
3360  
tgggcctcct tcacacaccc ctccctgtgg atcgctgcc tgggcccaga gcaggggaac  
3420  
tggagtttgt gagtgagcag agcaggttat gtgcagacag ggaaacgaga actttggacc  
3480  
tggctttctg agtccagggtg agagctgtgt ggccccccga tgccactctg cccgccggag  
3540  
ggatgtgcct gctgagcctt ttccttccac gccgcctctc actgccaggc cagcggcttc  
3600  
cgctgagact cgctggagag gcggctcccc tgctcgtcca ccgagcactc agatggatgc  
3660  
tgatcaccag ggccgagggg gctcccagaa ggaccccagg ccctggggag ggtggctgtg  
3720  
ggaggccaag tccactgccc ggaagtcttg tcagccctaa gccaggggaag cctggagcgt  
3780  
ggcctggcgg gtctgggtgg acaccgtccc cactccggac tcccagcaca ggggaggaga  
3840  
cctgagcctg tatggccctg tagccctggg cagagctggg cctgtcgtgt gttcctgcct  
3900  
ggcaggtgca ggtgctggcc atctgcaggt ggaaggaggt gggaaatcttg gattttttgt  
3960  
ttttttttgt cttttttttt tttgagatga agtctcgctc tgnacacca ggctggcgtg  
4020  
cagtgggtgtg atctcggtc actgcaaact ccgcttctctg ggttcaagtg gttctcctgc  
4080  
cccagcctcc caagtagctg ggattacagg catgagccac cacgctcagc tgatttttgt  
4140  
attttttagta gagatgggggt ttcaccatgt tggccaagct ggtctcaaac tcctgacctc  
4200  
aagtgatctg cccgcctcgg cctcccagag tgctgggatt acaggcgtga gccagtgcac  
4260  
ccggcggaat cttggaattt ttatagacag cacctcagtt tctgactcca gccgcacacc  
4320  
tcctgcctct accagcaggg gttgccgcca gaccagagcc agggccaggt ccctgcgtcc  
4380  
atcccccccg gtaggatgga cgtgagccat ccttctaggg gacttttttc agtgtgcgac  
4440  
tcgtctctgt taggtggtag gagccagttt gtgtggcctg tgccacgctc cacagtgcgt  
4500  
ggctgggctc tgtgtgtggc ctgtgtcccc tgctcctgca ggaccagca ggcacgtgg  
4560  
cgtgacagct gtgtccaagc cactgcccgg gcaccccatc acccaccagg gtgcacggtc  
4620

tctcctgctg ggggctttct gtcgcatgtg tgtctcctgt cgactctgca gtttgttctc  
4680  
agagcagaat gtttctgtt ctcaagtgcac aaagacactg gttttcaatc ggcgtctaaa  
4740  
accacgttcc tgcctttcat tgcaacacgg tgtgttcatt tgtttaaaac agtttaatga  
4800  
gtaagtttag atgactggtc aatatcttaa aaatgtatat tagtaagaag ttcttcctgg  
4860  
aatttttctt tcgattctgg cagaataaac aggtgttttt agttttccca ctgtctgagc  
4920  
caagcaggac cctgtcccag agcaagagat gtcccttcc atctctgacc cttgcctggg  
4980  
acaagctttg atggggggcc ccagcttcaa ggctgtggtg ggaacagcac ccccaaatgc  
5040  
cagcctctcc tttcttccca tccaccagta tactgcgggg ccatttctgg tctttgtcca  
5100  
acaggaaacc catttctggg gggatatgcc ttccagtgcc acaggggccac tcaccccatg  
5160  
catctctgtc ctgcccgtca gtgctgggac ggacagcaag ggcaagccca gtgtctggcg  
5220  
gataggtggg tgggaacaga gaggggagaa tgccgtccta agcttctgct tggggatccc  
5280  
ccacacgacc tgggtactgc ctgggaaacc tgtcctaagt aaaactatgg acctgcctc  
5340  
gcccaccggc ctgcgaagcc agcatctccg tgaaggtgga tggaagcgcc tttgtcctca  
5400  
ctttgagctg caagctgggt cagcggctct gaagccctcg agtgacttcc taacccaaga  
5460  
cccagcccct ggcaggagga ggggtgggtg agggctgggt ggacaaaaag aggcctcagc  
5520  
aggcctggaa gacccttcca gtacatccca cagcgtgtcg agcagctggg agaacctgtg  
5580  
tcaagctcga gccgtcatag gtcccatga ggtgtctgaa gccccttctt ggtgatggga  
5640  
ggcagaggtg ctgacgttct ggagcatgga cgtgagtcct cagctggctc cgcgtgggccc  
5700  
cttggagggg gccaggtgtg tggtgacctt ctggatgcct ttaacttcat ggctgcgtca  
5760  
ttcctgattt agaactttta ccggagcttc atctagtgat tgcaaaactg gaccaatggg  
5820  
aggacggcgg cgcagcccgc tccctcctg gaatggagct cagctcttcg gaggcacaa  
5880  
agcacctgtc gcctcctggg tccccctgcc gagggagtgc ggcctctgca aggttcgggg  
5940  
gtggcttcgt ttgcctggag tggccggccc tgcttgtgcc atgtggatgt ttgtgagcct  
6000  
cggctcctaca gcactgtgta ggctgcatct gtttcgtgct ggtcctgttg acttgatga  
6060  
tatccacaaa taaatatttt catggcggta aaaaaaaaaa aaaa  
6104

<210> 5202  
<211> 108  
<212> PRT

<213> Homo sapiens

<400> 5202

```

Ser Pro Gly Pro Arg Gly Leu Pro Glu Gly Pro Gln Ala Leu Gly Arg
 1           5           10           15
Val Ala Val Gly Gly Gln Val His Cys Pro Glu Val Leu Ser Ala Leu
      20           25           30
Ser Gln Gly Ser Leu Glu Arg Gly Leu Ala Gly Leu Gly Gly His Arg
      35           40           45
Pro His Ser Gly Leu Pro Ala Gln Gly Arg Arg Pro Glu Pro Val Trp
      50           55           60
Pro Cys Ser Pro Gly Gln Ser Trp Ala Cys Arg Val Phe Leu Pro Gly
65           70           75           80
Arg Cys Arg Cys Trp Pro Ser Ala Gly Gly Arg Arg Trp Glu Ser Trp
      85           90           95
Ile Phe Cys Phe Phe Leu Ser Phe Phe Phe Leu Arg
      100           105

```

<210> 5203

<211> 1863

<212> DNA

<213> Homo sapiens

<400> 5203

```

gaaaatttgg tagaaaaaga gataagtggg tctaaagtca cttgtagaga tcttgtagaa
60
tattttaagg cttacatcaa aatctatcaa ggagaagaac ttccacatcc aaagtccatg
120
cttcaggcaa cagctgaagc taataatctt gctgcagtag caggagcaag agatacctat
180
tgtaaaagta tggaacaggt atgtggaggg gacaagcctt acattgcacc ttcagatctg
240
gagcgaaaac acttggatct caaggaagtg gcgataaaac aatttcgttc agtaaaaaag
300
atgggtggag atgagttctg ccgtcggttat caggaccagc ttgaagctga aattgaagaa
360
acctatgcaa attttataaa gcacaatgat ggcaaaaata tcttctatgc tgctcgtacc
420
ccagccacac tgtttgcggt catgtttgct atgtatataa tctcaggact gactggcttc
480
attggcctaa actctatagc tgtcttgtgt aaccttgtca tgggggttagc actgatattt
540
ctttgtactt gggcatatgt taaatactct ggggagttca gagaaattgg aacagtgatt
600
gatcagattg ctgaaacact atgggaacag gtattgaagc ccttgggtga taatttgatg
660
gaggaaaaca taaggcagtc tgtaacaaac tctatcaaag caggcctgac tgaccaggtg
720
tctcatcatg ccagattaaa gacagactga cagttcatct cctcacggac tccactctct
780
ttttttttca tgcttgctgt acaatgagaa ctcaaataaa aataaaccaa agtttacaat
840
caactgtaga agtagtttag tgtaactggc ttcacagatg gctgccacag agtgtgaaga
900

```

ttgtttgtta gttttaagca ttcttttaaat ggctcctaag acatgcagat ggactgagga  
 960  
 gcattgggta atcatgcacc tttgtgccat gtttaactct tttatttttt tttacttaat  
 1020  
 ctaatgttag tgaatttgtc ttatgtaaaa ggatatttca gggaaatatt ttcagaaatc  
 1080  
 tatttagagt ctctttaaca cagtgtccca ttgaaatttt aatttttaga gaatttatga  
 1140  
 atcactgttt caagaaccag attggaaaga caatgaagcc tttattgagc cactacatta  
 1200  
 aaagtatata ttgctttact gccttcaata ccagtattac atcaatgcat gtatcagaaa  
 1260  
 cttcacagaa attacatggc aactcttgta gctaagaaag taattctgag gtgtacattt  
 1320  
 gtcttgccct tttaaattta taaacttgcc ctaaaaggag atgcatatct gggaaactga  
 1380  
 actgtctttt tgcagtttag ccttcatgta tataaaatat gccattaatt ttattgggga  
 1440  
 agaaattcca tccaaaaatg ttgcctacag ctatgagtta agagtgtctg tacagtgtgt  
 1500  
 agcttttatt ttctaaaatc acagataggg catgtatatg acttataaat atataaatac  
 1560  
 gattttgtat taaaagtttt gtagtttatg gcaaaatctg gtctgtggt aggctaaata  
 1620  
 agtacagtcc ctgtgaaagg aatgtttgtg gtcctgtgca gtgtgtgaat gcatagacaa  
 1680  
 tttgaagttt ttgatataat tgtgatattt atcttgagca ctgcaatctc accccccccc  
 1740  
 cccaccaag ggaattcaat gggaatgttt attgtgactt tgcctctgt tgcattttaa  
 1800  
 agttatttcc tgtaatttat tttcagtaca taattaaaaa tttgttgtat atataaaaaa  
 1860  
 aaa  
 1863

<210> 5204  
 <211> 249  
 <212> PRT  
 <213> Homo sapiens

<400> 5204  
 Glu Asn Leu Val Glu Lys Glu Ile Ser Gly Ser Lys Val Thr Cys Arg  
 1 5 10 15  
 Asp Leu Val Glu Tyr Phe Lys Ala Tyr Ile Lys Ile Tyr Gln Gly Glu  
 20 25 30  
 Glu Leu Pro His Pro Lys Ser Met Leu Gln Ala Thr Ala Glu Ala Asn  
 35 40 45  
 Asn Leu Ala Ala Val Ala Gly Ala Arg Asp Thr Tyr Cys Lys Ser Met  
 50 55 60  
 Glu Gln Val Cys Gly Gly Asp Lys Pro Tyr Ile Ala Pro Ser Asp Leu  
 65 70 75 80  
 Glu Arg Lys His Leu Asp Leu Lys Glu Val Ala Ile Lys Gln Phe Arg  
 85 90 95  
 Ser Val Lys Lys Met Gly Gly Asp Glu Phe Cys Arg Arg Tyr Gln Asp

			100					105					110				
Gln	Leu	Glu	Ala	Glu	Ile	Glu	Glu	Thr	Tyr	Ala	Asn	Phe	Ile	Lys	His		
		115					120					125					
Asn	Asp	Gly	Lys	Asn	Ile	Phe	Tyr	Ala	Ala	Arg	Thr	Pro	Ala	Thr	Leu		
	130					135					140						
Phe	Ala	Val	Met	Phe	Ala	Met	Tyr	Ile	Ile	Ser	Gly	Leu	Thr	Gly	Phe		
145					150					155					160		
Ile	Gly	Leu	Asn	Ser	Ile	Ala	Val	Leu	Cys	Asn	Leu	Val	Met	Gly	Leu		
			165					170					175				
Ala	Leu	Ile	Phe	Leu	Cys	Thr	Trp	Ala	Tyr	Val	Lys	Tyr	Ser	Gly	Glu		
		180						185				190					
Phe	Arg	Glu	Ile	Gly	Thr	Val	Ile	Asp	Gln	Ile	Ala	Glu	Thr	Leu	Trp		
	195						200				205						
Glu	Gln	Val	Leu	Lys	Pro	Leu	Gly	Asp	Asn	Leu	Met	Glu	Glu	Asn	Ile		
	210					215				220							
Arg	Gln	Ser	Val	Thr	Asn	Ser	Ile	Lys	Ala	Gly	Leu	Thr	Asp	Gln	Val		
225					230					235					240		
Ser	His	His	Ala	Arg	Leu	Lys	Thr	Asp									
			245														

&lt;210&gt; 5205

&lt;211&gt; 2011

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5205

cggccggggcc ccagcatggg tgtccccacg gctgagggcc tggcagctgc tgcgccctcg  
 60  
 ctttcttgac attccctggc ttctgtgctc ttttccccag gccaccccag cagacatggt  
 120  
 gccaaaggcct ttcgggtcaa gtccaacacg gccatcaagg ggtcggacag gagaaagctt  
 180  
 cgagctgatg tgacaactgc tttccccacc cttggaactg atcaagtctc tgagttagta  
 240  
 cctggaaagg aggagctcaa cattgtgaag ttgtatgctc acaaagggga tgcagtgact  
 300  
 gtgtacgtga gtggtggtaa ccccatcctc tttgaactgg agaaaaatct gtatccaaca  
 360  
 gtgtacacgc tgtggtccta tcctgatctt ctgccaacct ttacaacatg gcctctggtg  
 420  
 ctcgagaaac tggtaggggg agcagatttg atgctgcctg gactggtgat gcccctgct  
 480  
 ggtctgcctc aggtacagaa gggcgacctc tgtgccattt ctttggtggg gaacagagcc  
 540  
 cctgtagcca ttggagtgc agccatgtcc acagctgaga tgctcacgct aggcctgaag  
 600  
 ggaaggggct tctctgtgct ccacacttac caggaccact tgtggcggtc tggaaacaag  
 660  
 tcctctccac cttccattgc tccactggcc ctggattcag cagatctcag tgaagagaag  
 720  
 gggctctgtcc agatggactc caccctgcag ggagacatga ggcacatgac cctggagggg  
 780  
 gaagaggaga atggggaggt tcaccagggc acgtgaagac aatctctctc agaagcccca  
 840

gaagacacca gcaccagggg cctgaaccaa gactccacag atagcaaaac gcttcaagaa  
 900  
 caaatggatg agctgttaca gcaatgcttc ttacatgcct tgaagtgccg agtcaaaaag  
 960  
 gctgacctcc ctttactcac cagcactttc cttggcagcc acatgttctc ctgctgcccc  
 1020  
 gaangacgac aactggacat aaagaagtca agctacaaaa agctctctaa gttcctgcag  
 1080  
 caaatgcagc aggagcagat tatacagggtg aaggagctga gcaaaggggt ggagagcatt  
 1140  
 gtggctgtgg actggaaaca cccgaggatt acatctttcg tcataccctga gccctccccg  
 1200  
 acctcccaga ctatccagga gggtagcagg gaacagccct atcaccctcc agatataaaa  
 1260  
 cccctctact gtgtcccagc cagcatgacc ctgctcttcc aggagtctgg ccacaagaag  
 1320  
 gggagctttc tggagggcag tgagggtccga acgatcgtca ttaactacgc caagaaaaat  
 1380  
 gacctggttg atgcagacaa caaaaatctt gtgagattgg atcccatcct atgtgactgc  
 1440  
 atcttagaga aaaatgaaca gcatacagtc atgaagcttc catgggacag tcttctgacc  
 1500  
 aggtgttttg aaaaattaca gcctgcctat caagtgaccc ttcccggaca agagcccatt  
 1560  
 gtgaagaaag ggagaatctg tccaattgac atcaccctag cacaagagc gtctaataaa  
 1620  
 aaggtgaccg tgggtccggaa cttggaggcc tatggtctgg acccatactc agtggctgcc  
 1680  
 atccttcagc agcgatgcca ggctagcacc accgtcaatc ctgcccctgg ggccaaggac  
 1740  
 agccttcagg tgcagatcca gggaaaccag gtccaccacc tcggctggct attgcttgaa  
 1800  
 gagtatcagc tccctcgaaa acacatccaa ggtctagaaa aggccctcaa acctggcaag  
 1860  
 aagaagtgac agactctttt gtctcacgtg gtggatccgg tggaaatcca agctctgggc  
 1920  
 tggtaatttt tatgagcatt ttcagctttt gcaaatacaa aatataattc ttacaaaaa  
 1980  
 taaattttta ttctgatcta aaaaaaaaaa a  
 2011

&lt;210&gt; 5206

&lt;211&gt; 248

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5206

His	Ser	Leu	Ala	Ser	Val	Leu	Ser	Ser	Pro	Gly	His	Pro	Ser	Arg	His
1				5					10					15	
Val	Ala	Lys	Ala	Phe	Arg	Val	Lys	Ser	Asn	Thr	Ala	Ile	Lys	Gly	Ser
			20					25					30		
Asp	Arg	Arg	Lys	Leu	Arg	Ala	Asp	Val	Thr	Thr	Ala	Phe	Pro	Thr	Leu
			35				40					45			
Gly	Thr	Asp	Gln	Val	Ser	Glu	Leu	Val	Pro	Gly	Lys	Glu	Glu	Leu	Asn

50 55 60  
 Ile Val Lys Leu Tyr Ala His Lys Gly Asp Ala Val Thr Val Tyr Val  
 65 70 75 80  
 Ser Gly Gly Asn Pro Ile Leu Phe Glu Leu Glu Lys Asn Leu Tyr Pro  
 85 90 95  
 Thr Val Tyr Thr Leu Trp Ser Tyr Pro Asp Leu Leu Pro Thr Phe Thr  
 100 105 110  
 Thr Trp Pro Leu Val Leu Glu Lys Leu Val Gly Gly Ala Asp Leu Met  
 115 120 125  
 Leu Pro Gly Leu Val Met Pro Pro Ala Gly Leu Pro Gln Val Gln Lys  
 130 135 140  
 Gly Asp Leu Cys Ala Ile Ser Leu Val Gly Asn Arg Ala Pro Val Ala  
 145 150 155 160  
 Ile Gly Val Ala Ala Met Ser Thr Ala Glu Met Leu Thr Ser Gly Leu  
 165 170 175  
 Lys Gly Arg Gly Phe Ser Val Leu His Thr Tyr Gln Asp His Leu Trp  
 180 185 190  
 Arg Ser Gly Asn Lys Ser Ser Pro Pro Ser Ile Ala Pro Leu Ala Leu  
 195 200 205  
 Asp Ser Ala Asp Leu Ser Glu Glu Lys Gly Ser Val Gln Met Asp Ser  
 210 215 220  
 Thr Leu Gln Gly Asp Met Arg His Met Thr Leu Glu Gly Glu Glu Glu  
 225 230 235 240  
 Asn Gly Glu Val His Gln Gly Thr  
 245

&lt;210&gt; 5207

&lt;211&gt; 594

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5207

ncggccggcc agggcagggg gcacctagga cggccccggg ccaggtggag gccgcagagg  
 60  
 gcccgaggca agcagaggca gcaatggttg gtccctgacgg tggctgagcc cccagcccct  
 120  
 ggaatatgca gcccggggga gcccagaca gcggcaagga cgaggtggcg gaggggggcg  
 180  
 ggaggcatgg tctccaccta ccgggtggcc gtgctggggg cgcgaggtgt gggcaagagt  
 240  
 gccatcgtgc gccagttctt gtacaacgag ttcagcgagg tctgcgtccc caccaccgcc  
 300  
 cgccgctttt acctgectgc tgcgtcatg aacggccacg tgcacgacct ccagatcctc  
 360  
 gactttccac ccacagcgc ctccctgtc aatacgctcc aggagtgggc agacacctgc  
 420  
 tgcaggggac tccggagtgt ccacgcctac atcctggtct acgacatctg ctgctttgac  
 480  
 agctttgagt acgtcaagac catccgccag cagatcctgg agacgagggt gatcggaacc  
 540  
 tcagagacgc ccacatcat cgtgggcaac aagcgggacc tgcagcgcgg acgc  
 594

&lt;210&gt; 5208

<211> 136  
 <212> PRT  
 <213> Homo sapiens

<400> 5208  
 Met Val Ser Thr Tyr Arg Val Ala Val Leu Gly Ala Arg Gly Val Gly  
   1                  5                  10                  15  
 Lys Ser Ala Ile Val Arg Gln Phe Leu Tyr Asn Glu Phe Ser Glu Val  
           20                  25                  30  
 Cys Val Pro Thr Thr Ala Arg Arg Leu Tyr Leu Pro Ala Val Val Met  
           35                  40                  45  
 Asn Gly His Val His Asp Leu Gln Ile Leu Asp Phe Pro Pro Ile Ser  
   50                  55                  60  
 Ala Phe Pro Val Asn Thr Leu Gln Glu Trp Ala Asp Thr Cys Cys Arg  
 65                  70                  75                  80  
 Gly Leu Arg Ser Val His Ala Tyr Ile Leu Val Tyr Asp Ile Cys Cys  
           85                  90                  95  
 Phe Asp Ser Phe Glu Tyr Val Lys Thr Ile Arg Gln Gln Ile Leu Glu  
           100                  105                  110  
 Thr Arg Val Ile Gly Thr Ser Glu Thr Pro Ile Ile Ile Val Gly Asn  
           115                  120                  125  
 Lys Arg Asp Leu Gln Arg Gly Arg  
   130                  135

<210> 5209  
 <211> 1592  
 <212> DNA  
 <213> Homo sapiens

<400> 5209  
 atcctgtggg gcctgaagct tgtcatcttc ctggccgggt tcgtggccct gatgaggtcg  
 60  
 gtgcctgacc ctccaccgc ggcctgcta ctctggcct tgctgacct ctacgcctg  
 120  
 ctgagccggc tcaactggct cagagcctct ggggcccac tcgaggcaa ggtgagagg  
 180  
 ctggaacgcc aggtggagga gctgcgctgg cgccagaggc gagcggcaa gggggccgc  
 240  
 agtgtggagg aggagtgagc cggatgccc acacaccgc agtgtcatc caaagagctg  
 300  
 agctgcttcg gggccatgca gccctcctgc cagcccccctg ccttttctt gccctgtctc  
 360  
 tgaaccttca gaacattgat ccttgccgca gcccactag ccaagagaaa cagagaaaga  
 420  
 ccattcccc tgctgtctt tgcggccctg tcttctgagg ttctctgtct ggggttggt  
 480  
 ctcttaacce tttctctgt cccagcctgc ctccaccagg aaggttgagg gggcctcct  
 540  
 ctggcttctg catctgcgcc agcaaacatc actgccgttg gtctctcatg acttaactgg  
 600  
 ctccctctg ctgtgcctt ggcttctcc taatgctcgt gctctcctgt ccttctgaag  
 660  
 ttgtccttg gccaaatctc cagctccctt cttgttttcc tcctcctct accctgtact  
 720



```

cccaccaaac catggtcctt taaggcacgc tcctgtcctc ctcattgccc agcagtaggg
780
aggggcaggg gtaaggggac ctgaggataa aggggtgggga aacaggggtcc cctgaggcct
840
gtgggggctg caggggagga ggatgtacct tgtgtctctt tcaagtgcct taatccgagc
900
cagcagggcc ttctgcttgc ctgctgccat actgtatgta ggaaagtgtt ctgtggctgc
960
tttgtgtcaa gaaaagagca gtcactctca gaatcttgat tccccatcag ccaaagcaaa
1020
agatggctgc tgctttgtag gcatgtgcct gcaagtggga ccttgctggg cattatatgc
1080
cctgtggggg tttcagagac cctgaaagag gagggaggac ccgcctcctt gtctgcacaa
1140
ctgcatgcac ttctctcccc atcgtccac aacctgaaac cgagaaggag ttgctgacca
1200
gtgcccaccc cggcagcccg ggaggaacac aggcagctcc tttcccttca cgtggtctgc
1260
agagagcagg gtgagctgcc agctgcccct ctccaccagg gtaccctgtc ttggtggtta
1320
ggggccactt ttctttgag gctctagtgg aggtggatgt ccttctctgc caggcttggc
1380
acatgatgtg aagaataaat gcccaattct tactgttcag gtttgatgtg gaatcacagc
1440
tgcagtgata tatatTTTTT atcagtgcct gggtggtttt aaataaagtg cacgctatTT
1500
tattatcttg ttctgaataa aatgtattta ctccaaaaaa aaaaaaaaaa aaaaaaaaaa
1560
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa
1592

```

```

<210> 5210
<211> 85
<212> PRT
<213> Homo sapiens

```

```

<400> 5210
Ile Leu Trp Gly Leu Lys Leu Val Ile Phe Leu Ala Gly Phe Val Ala
 1             5             10             15
Leu Met Arg Ser Val Pro Asp Pro Ser Thr Arg Ala Leu Leu Leu Leu
      20             25             30
Ala Leu Leu Ile Leu Tyr Ala Leu Leu Ser Arg Leu Thr Gly Ser Arg
      35             40             45
Ala Ser Gly Ala Gln Leu Glu Ala Lys Val Arg Gly Leu Glu Arg Gln
      50             55             60
Val Glu Glu Leu Arg Trp Arg Gln Arg Arg Ala Ala Lys Gly Ala Arg
      65             70             75             80
Ser Val Glu Glu Glu
              85

```

```

<210> 5211
<211> 602
<212> DNA
<213> Homo sapiens

```

<400> 5211  
gcagttcagt ctttgattgg ttgctgagag gcggggctac tcgactgctc tggaggtagc  
60  
ggccgcggtg aggagagcca tgggacgggc agtcaagggt ttacagctct ttaaaacact  
120  
gcacaggacc agacaacaag tttttaaaaa tgatgccaga gcattagaag cagccagaat  
180  
aaagataaat gaagaattca aaaataataa aagtgaaact tcttctaaga aaatagaaga  
240  
gctaataaaa ataggttctg atgttgaatt attactcaga acatctgtta tacaagggtat  
300  
tcacacagac cacaatacac tgaaactggt ccctaggaaa gaccttcttg tagaaaatgt  
360  
gccatattgt gatgcacca ctcagaagca atgagttttc tagaatacaa caagtctttg  
420  
tactttttta ctttaaaatc tacaactctg gcaaaagtcc tggaaatgca gacattttcc  
480  
ctgaactggc atattgaaaa tgaatgaatt acagaatagc ttcatatatta aatttcatgt  
540  
taaaagggtca ttactgagaa ctaaagaaca taattaagta tttctaaagg aaattagata  
600  
ag  
602

<210> 5212  
<211> 104  
<212> PRT  
<213> Homo sapiens

<400> 5212  
Met Gly Arg Ala Val Lys Val Leu Gln Leu Phe Lys Thr Leu His Arg  
1 5 10 15  
Thr Arg Gln Gln Val Phe Lys Asn Asp Ala Arg Ala Leu Glu Ala Ala  
20 25 30  
Arg Ile Lys Ile Asn Glu Glu Phe Lys Asn Asn Lys Ser Glu Thr Ser  
35 40 45  
Ser Lys Lys Ile Glu Glu Leu Met Lys Ile Gly Ser Asp Val Glu Leu  
50 55 60  
Leu Leu Arg Thr Ser Val Ile Gln Gly Ile His Thr Asp His Asn Thr  
65 70 75 80  
Leu Lys Leu Val Pro Arg Lys Asp Leu Leu Val Glu Asn Val Pro Tyr  
85 90 95  
Cys Asp Ala Pro Thr Gln Lys Gln  
100

<210> 5213  
<211> 4387  
<212> DNA  
<213> Homo sapiens

<400> 5213  
nnccgcggag ctacggtttc ctccagaggt ctccgcccct ctgcccctat attcccagaa  
60

cccgagtctg atccgggcct tgccgggcac cctggaaagg cgggggtgat agtacagatg  
120  
gagacgcaac tgcagagcat tttcgaagag gtggtgaaaa cggaagtat agaagaggct  
180  
tttcctggca tgtttatgga tactcctgaa gatgagaaaa caaaactaat tagctgtttg  
240  
ggggccttca gacagttttg ggggtggactt tctcaggagt ctcatgaaca gtgtatccag  
300  
tggattgtta agtttattca tggtcagcat agtcctaaaa gaatttcttt tctttatgac  
360  
tgcttagcaa tggcagttga gactgggtctt cttccacca ggctgggttg tgaatccctg  
420  
ataaactctg acactcttga gtgggaaaga acacagcttt gggccttaac atttaaactg  
480  
gttcggaaaa taattggggg agtggattac aagggtgttc gagatctctt aaaagtgatt  
540  
ttggagaaga ttttgacaat tcctaataca gtgagctctg ctgttgata gcagcttctg  
600  
gcagcaagag aggttatagc atatatcttg gaaagaaatg cctgcttatt accagcctat  
660  
tttgagtcac ctgagatcag gaaactgtat cctgaaggca aacttcaca ctggttactt  
720  
ggaaacctag tatcagactt tgtggatacc ttcaggccca cagcaaggat aaactccatt  
780  
tgtggtcgct gtagtcttct gccagttgta aataattcgg gtgccatttg taattcatgg  
840  
aaactggatc ctgtactctt tcgttttcct ttgaaaggcc ttttgccata tgataaggat  
900  
ctgtttgaac cacagactgc tttgttgaga tatgtattgg agcagcctta ttccagggat  
960  
atggtctgca atatgctagg tttaaataag cagcacaagc agcgctgcc tgtgctggag  
1020  
gaccagttgg tggatctggg tgtttatgcc atggagcgat ctgagaccga ggagaagttt  
1080  
gacgatgggg gaacaagcca actcctgtgg cagcatctct caagtcagct cattttcttt  
1140  
gtgcttttcc agtttgcaag ttttccacat atgggtgcttt ctcttcatca gaagttagca  
1200  
gggcgaggac tgattaaagg cagagatcat cttatgtggg ttctcctgca attcatttct  
1260  
ggaagtattc agaaaaatgc actagctgat tttctccctg tgatgaagct cttcgacttg  
1320  
ctatacccag aaaaagaata tatcccagtt cctgatatta acaaaccoca gtcaaccat  
1380  
gcctttgcaa tgacctgtat ttggattcat ctcaatagaa aagctcaaaa tgacaactcc  
1440  
aagctacaga ttccaatacc tcattcccta agacttcacc atgagttcct gcagcagagt  
1500  
ctaagacata aaagtttaca gatgaatgac tataagattg ctctattgtg taatgcatac  
1560  
tctacaaatt cagaatgtgt tacattacc atgggagctc tggtagaaac tatttatgga  
1620  
aatggaatta tgagactacc tctccctgga acaaactgta tggcttcagc atctattacc  
1680

cccttaccta tgaacctcct ggattcactg acagttcatg ccaaaatgag ccttattcac  
1740  
agcattgcaa ccaggggtgat aaaacttgct catgcaaagt ccagtgtggc cttggctcca  
1800  
gccctagtgg aaacttacag tcgtttattg gtctatatgg aaatagagtc tttgggcac  
1860  
aaaggattta tcagtcagct tttgccaaact gtgttcaaact cacatgcatg ggggatctta  
1920  
cacacactcc ttgagatggt tagctaccgg atgcatcata ttcagcctca ttacagagtt  
1980  
cagctcctga gtcactttca tactttggct gcagttgcac aaacaaacca gaaccagctc  
2040  
catctttgtg tcgagagcac tgctctcagg cttataacag cattaggtag ctcagaggta  
2100  
caaccgcagt ttacacgctt ccttagtgat cccaaaacag tgctctcagc agaatctgaa  
2160  
gaactgaacc gagccttgat attgaccttg gctagagcaa ctcatgtaac agattttttt  
2220  
acaggctctg attcaattca gggaaacttg tgtaaagaca tacttcagac catcatgagt  
2280  
ttcactcctc ataattgggc ttcacacacc ctgagctggt ttccaggccc actacaggca  
2340  
ttcttcaaac aaaataatgt gcctcaggaa agccgtttta atctgaaaaa aaatgtggag  
2400  
gaggagtata ggaagtggaa gtcaatgagc aacgaaaacg acattattac ccacttctct  
2460  
atgcagggt cccctcctct ctttctttgt cttctctgga aaatgctctt ggaaacagat  
2520  
catattaatc agattggcta tagagtatta gagagaattg gagccagggc cttggtagcc  
2580  
catgtgagga catttgcaga tttcctggta tatgagtttt ctacatcagc aggggggtcag  
2640  
caactcaata aatgcattga aattcttaat gacatggtat ggaagtataa cattgttaca  
2700  
ctggacagat taattctctg cctggccatg cgtagtcacg aaggaaatga agcccagggt  
2760  
tgttattttca taattcagtt gctgttactc aaaccaaacg attttagaaa tcgagtaagt  
2820  
gactttgtga aggaaaattc cccagagcac tggttacaga atgactggca caccaagcac  
2880  
atgaattatc acaagaaata tccagagaag ttgtattttg agggcctcgc ggaacagggtg  
2940  
gactcctctg tacagatcca gtctccctat ctgccatct attttgggaa tgtgtgtctt  
3000  
cgattccttc cagtatttga tatagtaatc cacagatttt tagagttgct tccggtatcc  
3060  
aaatcactgg agactctact ggatcatcta ggaggcttat ataaatttca tgatcgacca  
3120  
gtgacttatc tgtataacac tctgcactat tatgaaatgc acctgagaga ccgcgcat  
3180  
ctcaaacgaa aactcgtcca tgcgatcatt ggctctctga aggataatcg accgcagggc  
3240  
tggtgtctaa gtgacactta cctgaaatgc gctatgaatg cacgagagga aaatccttgg  
3300

gttccagatg acacctacta ttgcagattg attggcagac tagtcgatac gatggctggc  
 3360  
 aaatctcctg gtccctttcc aaactgtgac tggagattca atgagtttcc caaccagct  
 3420  
 gcccatgctc tccatgttac ttgtgtggag ctcatggcct tggcagtttc aggcaaagaa  
 3480  
 gttgggaatg cccttctaaa tgttgctcta aaaagtcagc ctttagtgcc aagagagaac  
 3540  
 attacagcat ggatgaatgc aattggtttg atcatcactg ccctaccaga gccatattgg  
 3600  
 attgttcttc atgatcgaat tgtgagtgtc atcagcagcc ccagcttgac gtctgaaaca  
 3660  
 gagtgggttg gctatccatt ccgcctcttt gatttcactg cctgtcatca gtctactct  
 3720  
 gagatgagtt gtagctatac gttagctctt gcacatgctg tgtggcacca ttctagcatc  
 3780  
 ggacaacttt ctctcattcc aaagtttctt actgaagtac ttcttcctat agtgaagacc  
 3840  
 gaattccagt tgctttatgt ataccatctt gttggaccat ttttaciaag atttcagcaa  
 3900  
 gagagaactc gttgtatgat agagattggg gtggcgtttt atgacatgct gctgaatggt  
 3960  
 gaccagtgtg gcacccattt aaattacatg gatcccatct gtgacttctt ctatcacatg  
 4020  
 aagtatatgt ttactgggtga cagcgtgaaa gagcaagtag agaagattat ctgtaactta  
 4080  
 aaaccagctt taaaacttcg tcttcgattc atcacacaca ttagcaagat ggagccagct  
 4140  
 gcagtgcctc cacaagccat gaacagtggg tctccagcac ctcatgtctaa tcagggtgac  
 4200  
 actctcacct gacagatgat gtaattcttc aatttttata atcttaaaat ttttaaattt  
 4260  
 tatatttgta aatacagtac acattttatt tcttggattt tgagagacat tgtaatttt  
 4320  
 ggggggaattg gcattgcaa agacttgaaa actaatgagt aaagtctgct gaatgaataa  
 4380  
 accaaaa  
 4387

&lt;210&gt; 5214

&lt;211&gt; 1364

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5214

Met	Glu	Thr	Gln	Leu	Gln	Ser	Ile	Phe	Glu	Glu	Val	Val	Lys	Thr	Glu
1				5				10					15		
Val	Ile	Glu	Glu	Ala	Phe	Pro	Gly	Met	Phe	Met	Asp	Thr	Pro	Glu	Asp
		20					25					30			
Glu	Lys	Thr	Lys	Leu	Ile	Ser	Cys	Leu	Gly	Ala	Phe	Arg	Gln	Phe	Trp
	35					40					45				
Gly	Gly	Leu	Ser	Gln	Glu	Ser	His	Glu	Gln	Cys	Ile	Gln	Trp	Ile	Val
	50				55					60					
Lys	Phe	Ile	His	Gly	Gln	His	Ser	Pro	Lys	Arg	Ile	Ser	Phe	Leu	Tyr

[illegible]

[illegible]

930 935 940  
 Val Gln Ile Gln Ser Pro Tyr Leu Pro Ile Tyr Phe Gly Asn Val Cys  
 945 950 955 960  
 Leu Arg Phe Leu Pro Val Phe Asp Ile Val Ile His Arg Phe Leu Glu  
 965 970 975  
 Leu Leu Pro Val Ser Lys Ser Leu Glu Thr Leu Leu Asp His Leu Gly  
 980 985 990  
 Gly Leu Tyr Lys Phe His Asp Arg Pro Val Thr Tyr Leu Tyr Asn Thr  
 995 1000 1005  
 Leu His Tyr Tyr Glu Met His Leu Arg Asp Arg Ala Phe Leu Lys Arg  
 1010 1015 1020  
 Lys Leu Val His Ala Ile Ile Gly Ser Leu Lys Asp Asn Arg Pro Gln  
 1025 1030 1035 1040  
 Gly Trp Cys Leu Ser Asp Thr Tyr Leu Lys Cys Ala Met Asn Ala Arg  
 1045 1050 1055  
 Glu Glu Asn Pro Trp Val Pro Asp Asp Thr Tyr Tyr Cys Arg Leu Ile  
 1060 1065 1070  
 Gly Arg Leu Val Asp Thr Met Ala Gly Lys Ser Pro Gly Pro Phe Pro  
 1075 1080 1085  
 Asn Cys Asp Trp Arg Phe Asn Glu Phe Pro Asn Pro Ala Ala His Ala  
 1090 1095 1100  
 Leu His Val Thr Cys Val Glu Leu Met Ala Leu Ala Val Ser Gly Lys  
 1105 1110 1115 1120  
 Glu Val Gly Asn Ala Leu Leu Asn Val Val Leu Lys Ser Gln Pro Leu  
 1125 1130 1135  
 Val Pro Arg Glu Asn Ile Thr Ala Trp Met Asn Ala Ile Gly Leu Ile  
 1140 1145 1150  
 Ile Thr Ala Leu Pro Glu Pro Tyr Trp Ile Val Leu His Asp Arg Ile  
 1155 1160 1165  
 Val Ser Val Ile Ser Ser Pro Ser Leu Thr Ser Glu Thr Glu Trp Val  
 1170 1175 1180  
 Gly Tyr Pro Phe Arg Leu Phe Asp Phe Thr Ala Cys His Gln Ser Tyr  
 1185 1190 1195 1200  
 Ser Glu Met Ser Cys Ser Tyr Thr Leu Ala Leu Ala His Ala Val Trp  
 1205 1210 1215  
 His His Ser Ser Ile Gly Gln Leu Ser Leu Ile Pro Lys Phe Leu Thr  
 1220 1225 1230  
 Glu Val Leu Leu Pro Ile Val Lys Thr Glu Phe Gln Leu Leu Tyr Val  
 1235 1240 1245  
 Tyr His Leu Val Gly Pro Phe Leu Gln Arg Phe Gln Gln Glu Arg Thr  
 1250 1255 1260  
 Arg Cys Met Ile Glu Ile Gly Val Ala Phe Tyr Asp Met Leu Leu Asn  
 1265 1270 1275 1280  
 Val Asp Gln Cys Ser Thr His Leu Asn Tyr Met Asp Pro Ile Cys Asp  
 1285 1290 1295  
 Phe Leu Tyr His Met Lys Tyr Met Phe Thr Gly Asp Ser Val Lys Glu  
 1300 1305 1310  
 Gln Val Glu Lys Ile Ile Cys Asn Leu Lys Pro Ala Leu Lys Leu Arg  
 1315 1320 1325  
 Leu Arg Phe Ile Thr His Ile Ser Lys Met Glu Pro Ala Ala Val Pro  
 1330 1335 1340  
 Pro Gln Ala Met Asn Ser Gly Ser Pro Ala Pro Gln Ser Asn Gln Val  
 1345 1350 1355 1360  
 Asp Thr Leu Thr



<210> 5215  
 <211> 548  
 <212> DNA  
 <213> Homo sapiens

<400> 5215  
 nacgcgtgat ccatgggagg aggtaacatg tcaggatgag cggaagtttg gaagaagttg  
 60  
 gtcccaggcc tgaaagatca ctgtgagggt tcaggacttc agtggaggag ggactgtaga  
 120  
 ggttttagaa gcagcaagag aactagaatg agaaggactt ggagatgtga ctgcattgtc  
 180  
 gctgtctcgc gagaaaactt taacacgtga ggagttgcct ctgaaggggtg agcaggggag  
 240  
 ttgcttcagt tgcgctctag tcccagtga gattctgtga acctgggggt aatgaggaca  
 300  
 aagaacttgg aacagcccgg aacctcggtt gatgaagccg cggccgggnt tgagaggacc  
 360  
 gactgcagtt ctgaaagacg ttctgctgtg ggttcaatgc tatcagacag catcacgccc  
 420  
 cacagagaaa tctttcatga aaggaagagt ccatcgctgt ggccaacttt tttgtggtca  
 480  
 tagtttaaga agttgcccc aacctccagca gccaccgccc caacgagtca gccgccgtcc  
 540  
 acattgag  
 548

<210> 5216  
 <211> 83  
 <212> PRT  
 <213> Homo sapiens

<400> 5216  
 Ala Gly Glu Leu Leu Gln Leu Arg Ser Ser Pro Ser Glu Asp Ser Val  
 1 5 10 15  
 Asn Leu Gly Val Met Arg Thr Lys Asn Leu Glu Gln Pro Gly Thr Ser  
 20 25 30  
 Val Asp Glu Ala Ala Ala Gly Xaa Glu Arg Thr Asp Cys Ser Ser Glu  
 35 40 45  
 Arg Arg Ser Ala Val Gly Ser Met Leu Ser Asp Ser Ile Thr Pro His  
 50 55 60  
 Arg Glu Ile Phe His Glu Arg Lys Ser Pro Ser Leu Trp Pro Thr Phe  
 65 70 75 80  
 Leu Trp Ser

<210> 5217  
 <211> 4189  
 <212> DNA  
 <213> Homo sapiens

<400> 5217

atcagtaaaa tggggagaaa ttccaagcac acttctcaga gcagagcaga agaggttgac  
60  
tatggagagg agaatgaaga tgggaccaca ggtgagcccc ggggtgcccac ttactgcagc  
120  
ccccactggc gcaggctgcc ccaggccctg tgcagacaca ccaggccctc agccgcagcc  
180  
catggacctg cgggtgccag cggccccccag tggagcccc accagagccc acattgctgg  
240  
ccctgcagcg tccccagcgc ctgcaccacc acctcttctt agcaggcctg cagcagcagc  
300  
gctcgggtgga gcccatgagg ctctccatgg acacgccgat gcccgagtgg caggtgggac  
360  
cccaggaaca acagctgcgg cagcttctcc acaaggacaa gagcaagcga agtgctgtag  
420  
ccagcagcgt ggtcaagcag aagctagcgg aggtgattct gaaaaaacag caggcggccc  
480  
tagaaagaac agtccatccc aacagccccg gcattcccta cagaaccctg gagcccctgg  
540  
agacggaagg agccaccgcg tccatgctca gcagcttttt gcctcctgtt cccagcctgc  
600  
ccagtgaccc cccagagcac ttccctctgc gcaagacagt ctctgagccc aacctgaagc  
660  
tgcgctataa gccaagaag tccctggagc ggaggaagaa tccactgctc cgaaaggaga  
720  
gtgcgcccc cagcctccgg cggcggcccc cagagaccct cggagactcc tccccagta  
780  
gtagcagcac gcccgcatca ggatgcagct cccccaatga cagcgagcac ggccccaatc  
840  
ccatcctggg ctccggaggc ctcttgggccc agcggctgcg gctgcaggag acttctgtgg  
900  
ccccgttcgc cttgccgaca gtgtccttgc tgcccgaat cactctgggg ctgcccgcgc  
960  
ctgccagggc tgacagtgc cgcaggaccc atccgactct gggccctcgg gggccaatcc  
1020  
tggggagccc ccacactccc ctcttctctgc cccatggctt ggagcccag gctgggggca  
1080  
ccttgccctc tcgctgcag cccattctcc tccctggaccc ctcaggctct catgccccgc  
1140  
tgctgactgt gcccgggctt gggcccttgc ccttccactt tgcccagtcc ttaatgacca  
1200  
ccgagcggct ctctgggtca ggccctccact ggccactgag ccggactcgc tcagagcccc  
1260  
tgccccccag tgccaccgct cccccaccgc cgggccccat gcagccccgc ctggagcagc  
1320  
tcaaaactca cgtccaggtg atcaagaggt cagccaagcc gagtgagaag ccccggtgc  
1380  
ggcagatacc ctccggtgaa gacctggaga cagatggcgg gggaccgggc caggtggtgg  
1440  
acgatggcct ggagcacagg gagctgggcc atgggcagcc tgaggccaga ggccccgctc  
1500  
ctctccagca gcaccctcag gtgttgctct gggaacagca gcgactggct gggcggctcc  
1560  
cccggggcag caccggggac actgtgctgc ttcctctggc ccagggtggg caccggcctc  
1620